

SEQUENCE LISTING

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Smerdon, Stephen J.
Mancke, Isaac

<120> Binding Compounds Targeting the
Non-Kinase Domain Segment of Polo-Like Kinases

<130> 01997/545003

<150> US 60/487,899

<151> 2003-07-17

<150> US 60/485,641

<151> 2003-07-08

<150> US 60/426,132

<151> 2002-11-14

<160> 95

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 603

<212> PRT

<213> Homo sapiens

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Pro Gly Lys Ala Gly Val Pro Gly Val Ala Ala Pro Gly Ala Pro Ala
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Ala Ala Pro Pro Ala Lys Glu Ile Pro Glu Val Leu Val Asp Pro Arg
      35          40          45
Ser Arg Arg Arg Tyr Val Arg Gly Arg Phe Leu Gly Lys Gly Gly Phe
      50          55          60
Ala Lys Cys Phe Glu Ile Ser Asp Ala Asp Thr Lys Glu Val Phe Ala
      65          70          75          80
Gly Lys Ile Val Pro Lys Ser Leu Leu Leu Lys Pro His Gln Arg Glu
      85          90          95
Lys Met Ser Met Glu Ile Ser Ile His Arg Ser Leu Ala His Gln His
      100          105          110
Val Val Gly Phe His Gly Phe Phe Glu Asp Asn Asp Phe Val Phe Val
      115          120          125
Val Leu Glu Leu Cys Arg Arg Arg Ser Leu Leu Glu Leu His Lys Arg
      130          135          140
Arg Lys Ala Leu Thr Glu Pro Glu Ala Arg Tyr Tyr Leu Arg Gln Ile
      145          150          155          160
Val Leu Gly Cys Gln Tyr Leu His Arg Asn Arg Val Ile His Arg Asp
      165          170          175
Leu Lys Leu Gly Asn Leu Phe Leu Asn Glu Asp Leu Glu Val Lys Ile
      180          185          190
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Gly	Asp	Phe	Gly	Leu	Ala	Thr	Lys	Val	Glu	Tyr	Asp	Gly	Glu	Arg	Lys	
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225					230					235					240	
Met	Tyr	Thr	Leu	Leu	Val	Gly	Lys	Pro	Pro	Phe	Glu	Thr	Ser	Cys	Leu	
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Lys	Glu	Thr	Tyr	Leu	Arg	Ile	Lys	Lys	Asn	Glu	Tyr	Ser	Ile	Pro	Lys	
		260					265						270			
His	Ile	Asn	Pro	Val	Ala	Ala	Ser	Leu	Ile	Gln	Lys	Met	Leu	Gln	Thr	
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Phe	Thr	Ser	Gly	Tyr	Ile	Pro	Ala	Arg	Leu	Pro	Ile	Thr	Cys	Leu	Thr	
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Ile	Pro	Pro	Arg	Phe	Ser	Ile	Ala	Pro	Ser	Ser	Leu	Asp	Pro	Ser	Asn	
			325						330					335		
Arg	Lys	Pro	Leu	Thr	Val	Leu	Asn	Lys	Gly	Leu	Glu	Asn	Pro	Leu	Pro	
		340					345						350			
Glu	Arg	Pro	Arg	Glu	Lys	Glu	Glu	Pro	Val	Val	Arg	Glu	Thr	Gly	Glu	
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Val	Val	Asp	Cys	His	Leu	Ser	Asp	Met	Leu	Gln	Gln	Leu	His	Ser	Val	
	370					375				380						
Asn	Ala	Ser	Lys	Pro	Ser	Glu	Arg	Gly	Leu	Val	Arg	Gln	Glu	Glu	Ala	
385					390				395						400	
Glu	Asp	Pro	Ala	Cys	Ile	Pro	Ile	Phe	Trp	Val	Ser	Lys	Trp	Val	Asp	
			405					410					415			
Tyr	Ser	Asp	Lys	Tyr	Gly	Leu	Gly	Tyr	Gln	Leu	Cys	Asp	Asn	Ser	Val	
		420					425						430			
Gly	Val	Leu	Phe	Asn	Asp	Ser	Thr	Arg	Leu	Ile	Leu	Tyr	Asn	Asp	Gly	
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Asp	Ser	Leu	Gln	Tyr	Ile	Glu	Arg	Asp	Gly	Thr	Glu	Ser	Tyr	Leu	Thr	
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Val	Ser	Ser	His	Pro	Asn	Ser	Leu	Met	Lys	Lys	Ile	Thr	Leu	Leu	Lys	
465					470					475					480	
Tyr	Phe	Arg	Asn	Tyr	Met	Ser	Glu	His	Leu	Leu	Lys	Ala	Gly	Ala	Asn	
			485					490						495		
Ile	Thr	Pro	Arg	Glu	Gly	Asp	Glu	Leu	Ala	Arg	Leu	Pro	Tyr	Leu	Arg	
		500					505						510			
Thr	Trp	Phe	Arg	Thr	Arg	Ser	Ala	Ile	Ile	Leu	His	Leu	Ser	Asn	Gly	
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Ser	Val	Gln	Ile	Asn	Phe	Phe	Gln	Asp	His	Thr	Lys	Leu	Ile	Leu	Cys	
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Pro	Leu	Met	Ala	Ala	Val	Thr	Tyr	Ile	Asp	Glu	Lys	Arg	Asp	Phe	Arg	
545					550					555					560	
Thr	Tyr	Arg	Leu	Ser	Leu	Leu	Glu	Glu	Tyr	Gly	Cys	Cys	Lys	Glu	Leu	
			565					570						575		
Ala	Ser	Arg	Leu	Arg	Tyr	Ala	Arg	Thr	Met	Val	Asp	Lys	Leu	Leu	Ser	
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<212> PRT

<213> Homo sapiens

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 <223> Xaa = Pro or Phe

 <221> VARIANT
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 <223> Xaa = Ala, Gln or any hydrophobic amino acid

 <221> VARIANT
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 <223> Xaa = phosphorylated Thr or phosphorylated Ser

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 <223> Xaa = Pro or any amino acid

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 1 5

 <210> 3
 <211> 15
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 <213> Homo sapiens

 <220>
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 <222> 8
 <223> Threonine at position 8 is phosphorylated
 Threonine

 <400> 3
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 1 5 10 15

 <210> 4
 <211> 685
 <212> PRT
 <213> Homo sapiens

 <400> 4
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 1 5 10 15
 Met Cys Glu Gln Ala Leu Gly Lys Gly Cys Gly Gly Asp Ser Lys Lys
 20 25 30
 Lys Arg Pro Pro Gln Pro Pro Glu Ser Gln Pro Pro Gln Ser Gln
 35 40 45
 Ala Gln Val Pro Pro Ala Ala Pro His His His His His Ser His

	50					55					60				
Ser 65	Gly	Pro	Glu	Ile	Ser 70	Arg	Ile	Ile	Val	Asp 75	Pro	Thr	Thr	Gly	Lys 80
Arg	Tyr	Cys	Arg	Gly 85	Lys	Val	Leu	Gly	Lys 90	Gly	Gly	Phe	Ala	Lys 95	Cys
Tyr	Glu	Met	Thr 100	Asp	Leu	Thr	Asn	Asn 105	Lys	Val	Tyr	Ala	Ala 110	Lys	Ile
Ile	Pro	His 115	Ser	Arg	Val	Ala	Lys 120	Pro	His	Gln	Arg	Glu 125	Lys	Ile	Asp
Lys	Glu 130	Ile	Glu	Leu	His	Arg 135	Ile	Leu	His	His 140	Lys	His	Val	Val	Gln
Phe 145	Tyr	His	Tyr	Phe	Glu 150	Asp	Lys	Glu	Asn	Ile 155	Tyr	Ile	Leu	Leu	Glu 160
Tyr	Cys	Ser	Arg	Arg 165	Ser	Met	Ala	His	Ile 170	Leu	Lys	Ala	Arg	Lys 175	Val
Leu	Thr	Glu	Pro 180	Glu	Val	Arg	Tyr	Tyr 185	Leu	Arg	Gln	Ile	Val 190	Ser	Gly
Leu	Lys	Tyr 195	Leu	His	Glu	Gln	Glu 200	Ile	Leu	His	Arg	Asp 205	Leu	Lys	Leu
Gly	Asn 210	Phe	Phe	Ile	Asn	Glu 215	Ala	Met	Glu	Leu	Lys 220	Val	Gly	Asp	Phe
Gly 225	Leu	Ala	Ala	Arg	Leu 230	Glu	Pro	Leu	Glu	His 235	Arg	Arg	Arg	Thr	Ile 240
Cys	Gly	Thr	Pro	Asn 245	Tyr	Leu	Ser	Pro	Glu 250	Val	Leu	Asn	Lys	Gln 255	Gly
His	Gly	Cys	Glu 260	Ser	Asp	Ile	Trp	Ala 265	Leu	Gly	Cys	Val	Met 270	Tyr	Thr
Met	Leu	Leu 275	Gly	Arg	Pro	Pro	Phe 280	Glu	Thr	Thr	Asn	Leu 285	Lys	Glu	Thr
Tyr	Arg 290	Cys	Ile	Arg	Glu	Ala 295	Arg	Tyr	Thr	Met	Pro 300	Ser	Ser	Leu	Leu
Ala 305	Pro	Ala	Lys	His	Leu 310	Ile	Ala	Ser	Met	Leu 315	Ser	Lys	Asn	Pro	Glu 320
Asp	Arg	Pro	Ser	Leu 325	Asp	Asp	Ile	Ile	Arg 330	His	Asp	Phe	Phe	Leu 335	Gln
Gly	Phe	Thr	Pro 340	Asp	Arg	Leu	Ser	Ser 345	Ser	Cys	Cys	His	Thr 350	Val	Pro
Asp	Phe	His 355	Leu	Ser	Ser	Pro	Ala 360	Lys	Asn	Phe	Phe	Lys 365	Lys	Ala	Ala
Ala	Ala 370	Leu	Phe	Gly	Gly	Lys 375	Lys	Asp	Lys	Ala	Arg 380	Tyr	Ile	Asp	Thr
His 385	Asn	Arg	Val	Ser	Lys 390	Glu	Asp	Glu	Asp	Ile 395	Tyr	Lys	Leu	Arg	His 400
Asp	Leu	Lys	Lys	Thr 405	Ser	Ile	Thr	Gln	Gln 410	Pro	Ser	Lys	His	Arg 415	Thr
Asp	Glu	Glu	Leu 420	Gln	Pro	Pro	Thr	Thr 425	Thr	Val	Ala	Arg	Ser 430	Gly	Thr
Pro	Ala	Val 435	Glu	Asn	Lys	Gln	Gln 440	Ile	Gly	Asp	Ala	Ile 445	Arg	Met	Ile
Val	Arg 450	Gly	Thr	Leu	Gly	Ser 455	Cys	Ser	Ser	Ser	Ser 460	Glu	Cys	Leu	Glu
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Lys	Tyr	Gly 515	Phe	Gly	Tyr	Gln	Leu 520	Ser	Asp	His	Thr	Val 525	Gly	Val	Leu

Phe	Asn	Asn	Gly	Ala	His	Met	Ser	Leu	Leu	Pro	Asp	Lys	Lys	Thr	Val
	530					535					540				
His	Tyr	Tyr	Ala	Glu	Leu	Gly	Gln	Cys	Ser	Val	Phe	Pro	Ala	Thr	Asp
545					550					555					560
Ala	Pro	Glu	Gln	Phe	Ile	Ser	Gln	Val	Thr	Val	Leu	Lys	Tyr	Phe	Ser
				565						570					575
His	Tyr	Met	Glu	Asn	Leu	Met	Asp	Gly	Gly	Asp	Leu	Pro	Ser	Val	
			580				585					590			
Thr	Asp	Ile	Arg	Arg	Pro	Arg	Leu	Tyr	Leu	Leu	Gln	Trp	Leu	Lys	Ser
		595					600					605			
Asp	Lys	Ala	Leu	Met	Met	Leu	Phe	Asn	Asp	Gly	Thr	Phe	Gln	Val	Asn
	610					615					620				
Phe	Tyr	His	Asp	His	Thr	Lys	Ile	Ile	Ile	Cys	Ser	Gln	Asn	Glu	Glu
625					630					635					640
Tyr	Leu	Leu	Thr	Tyr	Ile	Asn	Glu	Asp	Arg	Ile	Ser	Thr	Thr	Phe	Arg
				645					650						655
Leu	Thr	Thr	Leu	Leu	Met	Ser	Gly	Cys	Ser	Ser	Glu	Leu	Lys	Asn	Arg
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<210> 5
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 <212> PRT
 <213> Homo sapiens

<400> 5															
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Pro	Arg	Ser	Gly	Arg	Thr	Tyr	Leu	Lys	Gly	Arg	Leu	Leu	Gly	Lys	Gly
			20					25					30		
Gly	Phe	Ala	Arg	Cys	Tyr	Glu	Ala	Thr	Asp	Thr	Glu	Thr	Gly	Ser	Ala
		35					40					45			
Tyr	Ala	Val	Lys	Val	Ile	Pro	Gln	Ser	Arg	Val	Ala	Lys	Pro	His	Gln
	50				55						60				
Arg	Glu	Lys	Ile	Leu	Asn	Glu	Ile	Glu	Leu	His	Arg	Asp	Leu	Gln	His
65					70					75					80
Arg	His	Ile	Val	Arg	Phe	Ser	His	His	Phe	Glu	Asp	Ala	Asp	Asn	Ile
				85					90					95	
Tyr	Ile	Phe	Leu	Glu	Leu	Cys	Ser	Arg	Lys	Ser	Leu	Ala	His	Ile	Trp
			100					105					110		
Lys	Ala	Arg	His	Thr	Leu	Leu	Glu	Pro	Glu	Val	Arg	Tyr	Tyr	Leu	Arg
		115					120					125			
Gln	Ile	Leu	Ser	Gly	Leu	Lys	Tyr	Leu	His	Gln	Arg	Gly	Ile	Leu	His
	130					135					140				
Arg	Asp	Leu	Lys	Leu	Gly	Asn	Phe	Phe	Ile	Thr	Glu	Asn	Met	Glu	Leu
145					150					155					160
Lys	Val	Gly	Asp	Phe	Gly	Leu	Ala	Ala	Arg	Leu	Glu	Pro	Pro	Glu	Gln
				165					170					175	
Arg	Lys	Lys	Thr	Ile	Cys	Gly	Thr	Pro	Asn	Tyr	Val	Ala	Pro	Glu	Val
			180					185					190		
Leu	Leu	Arg	Gln	Gly	His	Gly	Pro	Glu	Ala	Asp	Val	Trp	Ser	Leu	Gly
		195					200					205			
Cys	Val	Met	Tyr	Thr	Leu	Leu	Cys	Gly	Ser	Pro	Pro	Phe	Glu	Thr	Ala
	210					215					220				
Asp	Leu	Lys	Glu	Thr	Tyr	Arg	Cys	Ile	Lys	Gln	Val	His	Tyr	Thr	Leu
225					230					235					240
Pro	Ala	Ser	Leu	Ser	Leu	Pro	Ala	Arg	Gln	Leu	Leu	Ala	Ala	Ile	Leu

<223> Xaa = Pro or any hydrophobic acid
 <221> VARIANT
 <222> 3
 <223> Xaa = Ala, Gln or any hydrophobic acid
 <221> VARIANT
 <222> 4
 <223> Xaa = Thr, Gln, His or Met
 <221> VARIANT
 <222> 6
 <223> Xaa = phosphorylated Thr or phosphorylated Ser
 <221> VARIANT
 <222> 7
 <223> Xaa = Pro or any amino acid
 <400> 6
 Xaa Xaa Xaa Xaa Ser Xaa Xaa
 1 5
 <210> 7
 <211> 7
 <212> PRT
 <213> Homo sapiens
 <220>
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 <222> 5
 <223> Thr at position 5 is phosphorylated
 <400> 7
 Pro Met Gln Ser Thr Pro Leu
 1 5
 <210> 8
 <211> 4
 <212> PRT
 <213> Homo sapiens
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 <221> VARIANT
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 <223> Xaa = Met, Tyr, Phe, Ile, Leu, His, or Lys.
 <221> VARIANT
 <222> 2
 <223> Xaa = Ala, His, Met, Thr, Phe, or Gln.
 <221> VARIANT
 <222> 3
 <223> Xaa = Ser, Ala, Gly, or Thr.
 <221> VARIANT
 <222> 4
 <223> Xaa = Phosphorylated Serine or Threonine

<400> 8
Xaa Xaa Xaa Xaa
1

<210> 9
<211> 7
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 1
<223> Xaa = Any Amino Acid

<221> VARIANT
<222> 2
<223> Xaa = Met, Tyr, Phe, Ile, Leu, His, or Lys.

<221> VARIANT
<222> 3
<223> Xaa = Ala, His, Met, Thr, Phe, or Gln.

<221> VARIANT
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<223> Xaa = Ser, Ala, Gly, or Thr.

<221> VARIANT
<222> 5
<223> Xaa = phosphorylated Ser or phosphorylated Thr.

<221> VARIANT
<222> 6
<223> Xaa = Pro, Met, or Asn.

<221> VARIANT
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<223> Xaa = any amino acid

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 10
<211> 6
<212> PRT
<213> Homo sapiens

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<400> 10
Met Gln Ser Xaa Pro Leu
1 5

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 <223> Xaa = Any Amino Acid

 <221> PHOSPHORYLATION
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 <223> Thr at position 7 is phosphorylated

 <400> 11
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 1 5 10 15

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 <211> 15
 <212> PRT
 <213> Homo sapiens

 <220>
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 <223> Xaa = Any Amino Acid

 <221> PHOSPHORYLATION
 <222> 7
 <223> Ser at position 7 is phosphorylated

 <400> 12
 Met Ala Xaa Xaa Xaa Xaa Ser Pro Xaa Xaa Xaa Xaa Ala Lys Lys
 1 5 10 15

 <210> 13
 <211> 15
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 <220>
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 <223> Xaa = Any Amino Acid

 <221> PHOSPHORYLATION
 <222> 8
 <223> Thr at position 8 is phosphorylated

 <400> 13
 Met Ala Xaa Xaa Xaa Xaa Ser Thr Xaa Xaa Xaa Xaa Ala Lys Lys
 1 5 10 15

 <210> 14
 <211> 15

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<213> Homo sapiens

<220>
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<222> 3, 4, 5, 6, 9, 10, 11, 12
<223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
<222> 8
<223> Ser at position 8 is phosphorylated

<400> 14
Met Ala Xaa Xaa Xaa Xaa Ser Ser Xaa Xaa Xaa Xaa Ala Lys Lys
1 5 10 15

<210> 15
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<220>
<221> VARIANT
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<223> Xaa = Any Amino Acid

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Glx Gly Glx Gly Gly Ala Xaa Xaa Asx Xaa Thr Pro Xaa Xaa Xaa Xaa
1 5 10 15
Ala Lys Lys Lys
20

<210> 16
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<220>
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<223> Xaa = Any Amino Acid

<400> 16
Glx Gly Glx Gly Gly Ala Xaa Xaa Asx Xaa Thr Pro Xaa Xaa Xaa Xaa
1 5 10 15
Ala Lys Lys Lys
20

<210> 17
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<212> PRT
<213> Homo sapiens

<220>
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<222> 7, 8, 9, 10, 12, 13, 14, 15, 16

<223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION

<222> 11

<223> Thr at position 11 is phosphorylated

<400> 17

Glx	Gly	Glx	Gly	Gly	Ala	Xaa	Xaa	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Ala	Lys	Lys	Lys												
			20												

<210> 18

<211> 20

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 7, 8, 9, 10, 12, 13, 14, 15, 16

<223> Xaa = Any Amino Acid

<400> 18

Glx	Gly	Glx	Gly	Gly	Ala	Xaa	Xaa	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Ala	Lys	Lys	Lys												
			20												

<210> 19

<211> 15

<212> PRT

<213> Homo sapiens

<220>

<221> PHOSPHORYLATION

<222> 8

<223> Thr at position 8 is phosphorylated

<400> 19

Met	Ala	Gly	Pro	Met	Gln	Ser	Thr	Pro	Leu	Asn	Gly	Ala	Lys	Lys
1				5					10					15

<210> 20

<211> 15

<212> PRT

<213> Homo sapiens

<400> 20

Met	Ala	Gly	Pro	Met	Gln	Ser	Thr	Pro	Leu	Asn	Gly	Ala	Lys	Lys
1				5					10					15

<210> 21

<211> 20

<212> PRT

<213> Homo sapiens

<220>
<221> VARIANT
<222> 7, 8, 10, 13, 14, 15, 16
<223> Xaa = Any Amino Acid other than Cys

<221> MOD_RES
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<223> Glx at postion 1 is biotinylated

<221> PHOSPHORYLATION
<222> 11
<223> Thr at position 11 is phosphorylated

<400> 21
Glx Gly Glx Gly Gly Ala Xaa Xaa Asx Xaa Thr Pro Xaa Xaa Xaa Xaa
1 5 10 15
Ala Lys Lys Lys
20

<210> 22
<211> 20
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 7, 8, 10, 13, 14, 15, 16
<223> Xaa = Any Amino Acid other than Cys

<221> MOD_RES
<222> 1
<223> Glx at position 1 is biotinylated

<400> 22
Glx Gly Glx Gly Gly Ala Xaa Xaa Asx Xaa Thr Pro Xaa Xaa Xaa Xaa
1 5 10 15
Ala Lys Lys Lys
20

<210> 23
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<212> PRT
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<220>
<221> VARIANT
<222> 7, 8, 9, 11, 13, 14, 15
<223> Xaa = Any Amino Acid

<221> MOD_RES
<222> 1
<223> Glx at position 1 is biotinylated

<221> MOD_RES
<222> 11
<223> Xaa at position 11 is phosphorylated Serine or
phosphorylated Threonine

<400> 23
 Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Asx Xaa Gln Xaa Xaa Xaa Ala
 1 5 10 15
 Lys Lys Lys

<210> 24
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 <212> PRT
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<220>
 <221> VARIANT
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 <223> Xaa = Any Amino Acid

<221> MOD_RES
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 <223> Serine at position 11 is phosphorylated

<400> 24
 Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Ala Lys Lys Lys
 20

<210> 25
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 <212> PRT
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<220>
 <221> VARIANT
 <222> 7, 8, 9, 10, 12, 13, 14, 15, 16
 <223> Xaa = Any Amino Acid

<221> MOD_RES
 <222> 1
 <223> Glx at position 1 is biotinylated

<221> MOD_RES
 <222> 11
 <223> Threonine at position 11 is phosphorylated

<400> 25
 Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Ala Lys Lys Lys
 20

<210> 26
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 <212> PRT
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<400> 26

Met	Ala	Ala	Gly	Gln	Asn	Leu	Gln	Ser	Ser	Glu	Arg	Ser	Glu	Met	Ile
1				5					10				15		
Ala	Thr	Trp	Ser	Pro	Ala	Val	Arg	Thr	Leu	Arg	Asn	Ile	Thr	Asn	Asn
			20					25					30		
Ala	Asp	Ile	Gln	Gln	Met	Asn	Arg	Pro	Ser	Asn	Val	Ala	His	Ile	Leu
		35					40					45			
Gln	Thr	Leu	Ser	Ala	Pro	Thr	Lys	Asn	Leu	Glu	Gln	Gln	Val	Asn	His
	50					55					60				
Ser	Gln	Gln	Gly	His	Thr	Asn	Ala	Asn	Ala	Val	Leu	Phe	Ser	Gln	Val
65					70					75					80
Lys	Val	Thr	Pro	Glu	Thr	His	Met	Leu	Gln	Gln	Gln	Gln	Gln	Ala	Gln
				85					90					95	
Gln	Gln	Gln	Gln	Gln	His	Pro	Val	Leu	His	Leu	Gln	Pro	Gln	Gln	Ile
			100					105					110		
Met	Gln	Leu	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Ile	Ser	Gln	Gln	Pro	Tyr
		115					120					125			
Pro	Gln	Gln	Pro	Pro	His	Pro	Phe	Ser	Gln	Gln	Gln	Gln	Gln	Gln	Gln
	130					135					140				
Gln	Ala	His	Pro	His	Gln	Phe	Ser	Gln	Gln	Gln	Leu	Gln	Phe	Pro	Gln
145					150					155					160
Gln	Gln	Leu	His	Pro	Pro	Gln	Gln	Leu	His	Arg	Pro	Gln	Gln	Gln	Leu
				165					170						175
Gln	Pro	Phe	Gln	Gln	Gln	His	Ala	Leu	Gln	Gln	Gln	Phe	His	Gln	Leu
			180					185					190		
Gln	Gln	His	Gln	Leu	Gln	Gln	Gln	Gln	Leu	Ala	Gln	Leu	Gln	Gln	Gln
		195					200					205			
His	Ser	Leu	Leu	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Ile	Gln	Gln	Gln	Gln
	210					215					220				
Leu	Gln	Arg	Met	His	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Met	Gln	Ser	Gln
225					230					235					240
Thr	Ala	Pro	His	Leu	Ser	Gln	Thr	Ser	Gln	Ala	Leu	Gln	His	Gln	Val
				245					250					255	
Pro	Pro	Gln	Gln	Pro	Pro	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Pro	Pro	Pro
		260					265						270		
Ser	Pro	Gln	Gln	His	Gln	Leu	Phe	Gly	His	Asp	Pro	Ala	Val	Glu	Ile
		275					280					285			
Pro	Glu	Glu	Gly	Phe	Leu	Leu	Gly	Cys	Val	Phe	Ala	Ile	Ala	Asp	Tyr
	290					295					300				
Pro	Glu	Gln	Met	Ser	Asp	Lys	Gln	Leu	Leu	Ala	Thr	Trp	Lys	Arg	Ile
305					310					315					320
Ile	Gln	Ala	His	Gly	Gly	Thr	Val	Asp	Pro	Thr	Phe	Thr	Ser	Arg	Cys
				325					330					335	
Thr	His	Leu	Leu	Cys	Glu	Ser	Gln	Val	Ser	Ser	Ala	Tyr	Ala	Gln	Ala
			340					345					350		
Ile	Arg	Glu	Arg	Lys	Arg	Cys	Val	Thr	Ala	His	Trp	Leu	Asn	Thr	Val
		355					360					365			
Leu	Lys	Lys	Lys	Lys	Met	Val	Pro	Pro	His	Arg	Ala	Leu	His	Phe	Pro
	370					375					380				
Val	Ala	Phe	Pro	Pro	Gly	Gly	Lys	Pro	Cys	Ser	Gln	His	Ile	Ile	Ser
385					390					395					400
Val	Thr	Gly	Phe	Val	Asp	Ser	Asp	Arg	Asp	Asp	Leu	Lys	Leu	Met	Ala
				405					410					415	
Tyr	Leu	Ala	Gly	Ala	Lys	Tyr	Thr	Gly	Tyr	Leu	Cys	Arg	Ser	Asn	Thr
			420					425					430		
Val	Leu	Ile	Cys	Lys	Glu	Pro	Thr	Gly	Leu	Lys	Tyr	Glu	Lys	Ala	Lys
		435					440					445			
Glu	Trp	Arg	Ile	Pro	Cys	Val	Asn	Ala	Gln	Trp	Leu	Gly	Asp	Ile	Leu
	450					455					460				
Leu	Gly	Asn	Phe	Glu	Ala	Leu	Arg	Gln	Ile	Gln	Tyr	Ser	Arg	Tyr	Thr

465					470					475				480
Ala	Phe	Ser	Leu	Gln	Asp	Pro	Phe	Ala	Pro	Thr	Gln	His	Leu	Val
				485					490					495
Asn	Leu	Leu	Asp	Ala	Trp	Arg	Val	Pro	Leu	Lys	Val	Ser	Ala	Glu
			500					505					510	
Leu	Met	Ser	Ile	Arg	Leu	Pro	Pro	Lys	Leu	Lys	Gln	Asn	Glu	Val
		515					520				525			
Asn	Val	Gln	Pro	Ser	Ser	Lys	Arg	Ala	Arg	Ile	Glu	Asp	Val	Pro
	530					535					540			
Pro	Thr	Lys	Lys	Leu	Thr	Pro	Glu	Leu	Thr	Pro	Phe	Val	Leu	Phe
545					550					555				560
Gly	Phe	Glu	Pro	Val	Gln	Val	Gln	Gln	Tyr	Ile	Lys	Lys	Leu	Tyr
				565					570					575
Leu	Gly	Gly	Glu	Val	Ala	Glu	Ser	Ala	Gln	Lys	Cys	Thr	His	Leu
			580					585					590	
Ala	Ser	Lys	Val	Thr	Arg	Thr	Val	Lys	Phe	Leu	Thr	Ala	Ile	Ser
		595					600					605		
Val	Lys	His	Ile	Val	Thr	Pro	Glu	Trp	Leu	Glu	Glu	Cys	Phe	Arg
	610					615					620			
Gln	Lys	Phe	Ile	Asp	Glu	Gln	Asn	Tyr	Ile	Leu	Arg	Asp	Ala	Glu
625					630					635				640
Glu	Val	Leu	Phe	Ser	Phe	Ser	Leu	Glu	Glu	Ser	Leu	Lys	Arg	Ala
			645					650						655
Val	Ser	Pro	Leu	Phe	Lys	Ala	Lys	Tyr	Phe	Tyr	Ile	Thr	Pro	Gly
			660					665					670	
Cys	Pro	Ser	Leu	Ser	Thr	Met	Lys	Ala	Ile	Val	Glu	Cys	Ala	Gly
		675					680					685		
Lys	Val	Leu	Ser	Lys	Gln	Pro	Ser	Phe	Arg	Lys	Leu	Met	Glu	His
	690					695					700			
Gln	Asn	Ser	Ser	Leu	Ser	Glu	Ile	Ile	Leu	Ile	Ser	Cys	Glu	Asn
705					710					715				720
Leu	His	Leu	Cys	Arg	Glu	Tyr	Phe	Ala	Arg	Gly	Ile	Asp	Val	His
			725						730					735
Ala	Glu	Phe	Val	Leu	Thr	Gly	Val	Leu	Thr	Gln	Thr	Leu	Asp	Tyr
			740					745					750	
Ser	Tyr	Lys	Phe	Asn										
		755												

<210> 27
 <211> 1863
 <212> PRT
 <213> Homo sapiens

<400> 27

Met	Asp	Leu	Ser	Ala	Leu	Arg	Val	Glu	Glu	Val	Gln	Asn	Val	Ile	Asn
1				5					10					15	
Ala	Met	Gln	Lys	Ile	Leu	Glu	Cys	Pro	Ile	Cys	Leu	Glu	Leu	Ile	Lys
		20						25					30		
Glu	Pro	Val	Ser	Thr	Lys	Cys	Asp	His	Ile	Phe	Cys	Lys	Phe	Cys	Met
		35					40					45			
Leu	Lys	Leu	Leu	Asn	Gln	Lys	Lys	Gly	Pro	Ser	Gln	Cys	Pro	Leu	Cys
	50					55					60				
Lys	Asn	Asp	Ile	Thr	Lys	Arg	Ser	Leu	Gln	Glu	Ser	Thr	Arg	Phe	Ser
65					70					75					80
Gln	Leu	Val	Glu	Glu	Leu	Leu	Lys	Ile	Ile	Cys	Ala	Phe	Gln	Leu	Asp
			85						90					95	
Thr	Gly	Leu	Glu	Tyr	Ala	Asn	Ser	Tyr	Asn	Phe	Ala	Lys	Lys	Glu	Asn
			100					105						110	

Asn	Ser	Pro	Glu	His	Leu	Lys	Asp	Glu	Val	Ser	Ile	Ile	Gln	Ser	Met
		115					120					125			
Gly	Tyr	Arg	Asn	Arg	Ala	Lys	Arg	Leu	Leu	Gln	Ser	Glu	Pro	Glu	Asn
	130					135					140				
Pro	Ser	Leu	Gln	Glu	Thr	Ser	Leu	Ser	Val	Gln	Leu	Ser	Asn	Leu	Gly
145					150					155					160
Thr	Val	Arg	Thr	Leu	Arg	Thr	Lys	Gln	Arg	Ile	Gln	Pro	Gln	Lys	Thr
				165					170					175	
Ser	Val	Tyr	Ile	Glu	Leu	Gly	Ser	Asp	Ser	Ser	Glu	Asp	Thr	Val	Asn
			180					185					190		
Lys	Ala	Thr	Tyr	Cys	Ser	Val	Gly	Asp	Gln	Glu	Leu	Leu	Gln	Ile	Thr
	195						200					205			
Pro	Gln	Gly	Thr	Arg	Asp	Glu	Ile	Ser	Leu	Asp	Ser	Ala	Lys	Lys	Ala
	210					215					220				
Ala	Cys	Glu	Phe	Ser	Glu	Thr	Asp	Val	Thr	Asn	Thr	Glu	His	His	Gln
225					230					235					240
Pro	Ser	Asn	Asn	Asp	Leu	Asn	Thr	Thr	Glu	Lys	Arg	Ala	Ala	Glu	Arg
				245					250					255	
His	Pro	Glu	Lys	Tyr	Gln	Gly	Ser	Ser	Val	Ser	Asn	Leu	His	Val	Glu
			260					265					270		
Pro	Cys	Gly	Thr	Asn	Thr	His	Ala	Ser	Ser	Leu	Gln	His	Glu	Asn	Ser
	275						280					285			
Ser	Leu	Leu	Leu	Thr	Lys	Asp	Arg	Met	Asn	Val	Glu	Lys	Ala	Glu	Phe
	290					295				300					
Cys	Asn	Lys	Ser	Lys	Gln	Pro	Gly	Leu	Ala	Arg	Ser	Gln	His	Asn	Arg
305					310					315					320
Trp	Ala	Gly	Ser	Lys	Glu	Thr	Cys	Asn	Asp	Arg	Arg	Thr	Pro	Ser	Thr
				325					330					335	
Glu	Lys	Lys	Val	Asp	Leu	Asn	Ala	Asp	Pro	Leu	Cys	Glu	Arg	Lys	Glu
			340					345					350		
Trp	Asn	Lys	Gln	Lys	Leu	Pro	Cys	Ser	Glu	Asn	Pro	Arg	Asp	Thr	Glu
	355					360					365				
Asp	Val	Pro	Trp	Ile	Thr	Leu	Asn	Ser	Ser	Ile	Gln	Lys	Val	Asn	Glu
	370					375					380				
Trp	Phe	Ser	Arg	Ser	Asp	Glu	Leu	Leu	Gly	Ser	Asp	Asp	Ser	His	Asp
385					390					395					400
Gly	Glu	Ser	Glu	Ser	Asn	Ala	Lys	Val	Ala	Asp	Val	Leu	Asp	Val	Leu
				405					410					415	
Asn	Glu	Val	Asp	Glu	Tyr	Ser	Gly	Ser	Ser	Glu	Lys	Ile	Asp	Leu	Leu
			420					425					430		
Ala	Ser	Asp	Pro	His	Glu	Ala	Leu	Ile	Cys	Lys	Ser	Glu	Arg	Val	His
	435						440					445			
Ser	Lys	Ser	Val	Glu	Ser	Asn	Ile	Glu	Asp	Lys	Ile	Phe	Gly	Lys	Thr
	450					455					460				
Tyr	Arg	Lys	Lys	Ala	Ser	Leu	Pro	Asn	Leu	Ser	His	Val	Thr	Glu	Asn
465					470					475					480
Leu	Ile	Ile	Gly	Ala	Phe	Val	Thr	Glu	Pro	Gln	Ile	Ile	Gln	Glu	Arg
			485						490					495	
Pro	Leu	Thr	Asn	Lys	Leu	Lys	Arg	Lys	Arg	Arg	Pro	Thr	Ser	Gly	Leu
			500					505					510		
His	Pro	Glu	Asp	Phe	Ile	Lys	Lys	Ala	Asp	Leu	Ala	Val	Gln	Lys	Thr
	515						520					525			
Pro	Glu	Met	Ile	Asn	Gln	Gly	Thr	Asn	Gln	Thr	Glu	Gln	Asn	Gly	Gln
	530					535					540				
Val	Met	Asn	Ile	Thr	Asn	Ser	Gly	His	Glu	Asn	Lys	Thr	Lys	Gly	Asp
545					550					555					560
Ser	Ile	Gln	Asn	Glu	Lys	Asn	Pro	Asn	Pro	Ile	Glu	Ser	Leu	Glu	Lys
				565					570					575	
Glu	Ser	Ala	Phe	Lys	Thr	Lys	Ala	Glu	Pro	Ile	Ser	Ser	Ser	Ile	Ser

Ser Ile Asn Glu Ile Gly Ser Ser Asp Glu Asn Ile Gln Ala Glu Leu
 1060 1065 1070
 Gly Arg Asn Arg Gly Pro Lys Leu Asn Ala Met Leu Arg Leu Gly Val
 1075 1080 1085
 Leu Gln Pro Glu Val Tyr Lys Gln Ser Leu Pro Gly Ser Asn Cys Lys
 1090 1095 1100
 His Pro Glu Ile Lys Lys Gln Glu Tyr Glu Glu Val Val Gln Thr Val
 1105 1110 1115 1120
 Asn Thr Asp Phe Ser Pro Tyr Leu Ile Ser Asp Asn Leu Glu Gln Pro
 1125 1130 1135
 Met Gly Ser Ser His Ala Ser Gln Val Cys Ser Glu Thr Pro Asp Asp
 1140 1145 1150
 Leu Leu Asp Asp Gly Glu Ile Lys Glu Asp Thr Ser Phe Ala Glu Asn
 1155 1160 1165
 Asp Ile Lys Glu Ser Ser Ala Val Phe Ser Lys Ser Val Gln Lys Gly
 1170 1175 1180
 Glu Leu Ser Arg Ser Pro Ser Pro Phe Thr His Thr His Leu Ala Gln
 1185 1190 1195 1200
 Gly Tyr Arg Arg Gly Ala Lys Lys Leu Glu Ser Ser Glu Glu Asn Leu
 1205 1210 1215
 Ser Ser Glu Asp Glu Glu Leu Pro Cys Phe Gln His Leu Leu Phe Gly
 1220 1225 1230
 Lys Val Asn Asn Ile Pro Ser Gln Ser Thr Arg His Ser Thr Val Ala
 1235 1240 1245
 Thr Glu Cys Leu Ser Lys Asn Thr Glu Glu Asn Leu Leu Ser Leu Lys
 1250 1255 1260
 Asn Ser Leu Asn Asp Cys Ser Asn Gln Val Ile Leu Ala Lys Ala Ser
 1265 1270 1275 1280
 Gln Glu His His Leu Ser Glu Glu Thr Lys Cys Ser Ala Ser Leu Phe
 1285 1290 1295
 Ser Ser Gln Cys Ser Glu Leu Glu Asp Leu Thr Ala Asn Thr Asn Thr
 1300 1305 1310
 Gln Asp Pro Phe Leu Ile Gly Ser Ser Lys Gln Met Arg His Gln Ser
 1315 1320 1325
 Glu Ser Gln Gly Val Gly Leu Ser Asp Lys Glu Leu Val Ser Asp Asp
 1330 1335 1340
 Glu Glu Arg Gly Thr Gly Leu Glu Glu Asn Asn Gln Glu Glu Gln Ser
 1345 1350 1355 1360
 Met Asp Ser Asn Leu Gly Glu Ala Ala Ser Gly Cys Glu Ser Glu Thr
 1365 1370 1375
 Ser Val Ser Glu Asp Cys Ser Gly Leu Ser Ser Gln Ser Asp Ile Leu
 1380 1385 1390
 Thr Thr Gln Gln Arg Asp Thr Met Gln His Asn Leu Ile Lys Leu Gln
 1395 1400 1405
 Gln Glu Met Ala Glu Leu Glu Ala Val Leu Glu Gln His Gly Ser Gln
 1410 1415 1420
 Pro Ser Asn Ser Tyr Pro Ser Ile Ile Ser Asp Ser Ser Ala Leu Glu
 1425 1430 1435 1440
 Asp Leu Arg Asn Pro Glu Gln Ser Thr Ser Glu Lys Ala Val Leu Thr
 1445 1450 1455
 Ser Gln Lys Ser Ser Glu Tyr Pro Ile Ser Gln Asn Pro Glu Gly Leu
 1460 1465 1470
 Ser Ala Asp Lys Phe Glu Val Ser Ala Asp Ser Ser Thr Ser Lys Asn
 1475 1480 1485
 Lys Glu Pro Gly Val Glu Arg Ser Ser Pro Ser Lys Cys Pro Ser Leu
 1490 1495 1500
 Asp Asp Arg Trp Tyr Met His Ser Cys Ser Gly Ser Leu Gln Asn Arg
 1505 1510 1515 1520
 Asn Tyr Pro Ser Gln Glu Glu Leu Ile Lys Val Val Asp Val Glu Glu

Ala	Leu	Pro	Phe	Pro	Ser	Ile	Ser	Lys	Gln	His	Ala	Glu	Ile	Glu	Ile
65					70					75					80
Leu	Ala	Trp	Asp	Lys	Ala	Pro	Ile	Leu	Arg	Asp	Cys	Gly	Ser	Leu	Asn
				85					90					95	
Gly	Thr	Gln	Ile	Leu	Arg	Pro	Pro	Lys	Val	Leu	Ser	Pro	Gly	Val	Ser
			100					105					110		
His	Arg	Leu	Arg	Asp	Gln	Glu	Leu	Ile	Leu	Phe	Ala	Asp	Leu	Leu	Cys
		115					120					125			
Gln	Tyr	His	Arg	Leu	Asp	Val	Ser	Leu	Pro	Phe	Val	Ser	Arg	Gly	Pro
	130					135					140				
Leu	Thr	Val	Glu	Glu	Thr	Pro	Arg	Val	Gln	Gly	Glu	Thr	Gln	Pro	Gln
145					150					155					160
Arg	Leu	Leu	Leu	Ala	Glu	Asp	Ser	Glu	Glu	Glu	Val	Asp	Phe	Leu	Ser
				165					170					175	
Glu	Arg	Arg	Met	Val	Lys	Lys	Ser	Arg	Thr	Thr	Ser	Ser	Ser	Val	Ile
			180					185						190	
Val	Pro	Glu	Ser	Asp	Glu	Glu	Gly	His	Ser	Pro	Val	Leu	Gly	Gly	Leu
		195					200					205			
Gly	Pro	Pro	Phe	Ala	Phe	Asn	Leu	Asn	Ser	Asp	Thr	Asp	Val	Glu	Glu
	210					215					220				
Gly	Gln	Gln	Pro	Ala	Thr	Glu	Glu	Ala	Ser	Ser	Ala	Ala	Arg	Arg	Gly
225					230					235					240
Ala	Thr	Val	Glu	Ala	Lys	Gln	Ser	Glu	Ala	Glu	Val	Val	Thr	Glu	Ile
				245					250					255	
Gln	Leu	Glu	Lys	Asp	Gln	Pro	Leu	Val	Lys	Glu	Arg	Asp	Asn	Asp	Thr
			260					265					270		
Lys	Val	Lys	Arg	Gly	Ala	Gly	Asn	Gly	Val	Val	Pro	Ala	Gly	Val	Ile
		275					280					285			
Leu	Glu	Arg	Ser	Gln	Pro	Pro	Gly	Glu	Asp	Ser	Asp	Thr	Asp	Val	Asp
	290					295					300				
Asp	Asp	Ser	Arg	Pro	Pro	Gly	Arg	Pro	Ala	Glu	Val	His	Leu	Glu	Arg
305					310					315					320
Ala	Gln	Pro	Phe	Gly	Phe	Ile	Asp	Ser	Asp	Thr	Asp	Ala	Glu	Glu	Glu
				325					330					335	
Arg	Ile	Pro	Ala	Thr	Pro	Val	Val	Ile	Pro	Met	Lys	Lys	Arg	Lys	Ile
			340					345					350		
Phe	His	Gly	Val	Gly	Thr	Arg	Gly	Pro	Gly	Ala	Pro	Gly	Leu	Ala	His
		355					360					365			
Leu	Gln	Glu	Ser	Gln	Ala	Gly	Ser	Asp	Thr	Asp	Val	Glu	Glu	Gly	Lys
	370					375					380				
Ala	Pro	Gln	Ala	Val	Pro	Leu	Glu	Lys	Ser	Gln	Ala	Ser	Met	Val	Ile
385					390					395					400
Asn	Ser	Asp	Thr	Asp	Asp	Glu	Glu	Glu	Val	Ser	Ala	Ala	Leu	Thr	Leu
				405					410					415	
Ala	His	Leu	Lys	Glu	Ser	Gln	Pro	Ala	Ile	Trp	Asn	Arg	Asp	Ala	Glu
			420					425					430		
Glu	Asp	Met	Pro	Gln	Arg	Val	Val	Leu	Leu	Gln	Arg	Ser	Gln	Thr	Thr
		435					440					445			
Thr	Glu	Arg	Asp	Ser	Asp	Thr	Asp	Val	Glu	Glu	Glu	Glu	Leu	Pro	Val
	450					455						460			
Glu	Asn	Arg	Glu	Ala	Val	Leu	Lys	Asp	His	Thr	Lys	Ile	Arg	Ala	Leu
465					470					475					480
Val	Arg	Ala	His	Ser	Glu	Lys	Asp	Gln	Pro	Pro	Phe	Gly	Asp	Ser	Asp
				485					490					495	
Asp	Ser	Val	Glu	Ala	Asp	Lys	Ser	Ser	Pro	Gly	Ile	His	Leu	Glu	Arg
		500						505					510		
Ser	Gln	Ala	Ser	Thr	Thr	Val	Asp	Ile	Asn	Thr	Gln	Val	Glu	Lys	Glu
		515					520					525			
Val	Pro	Pro	Gly	Ser	Ala	Ile	Met	His	Ile	Lys	Lys	His	Gln	Val	Ser

530	535	540
Val Glu Gly Thr Asn Gln Thr Asp Val Lys Ala Val Gly Gly Pro Ala		
545	550	555
Lys Leu Leu Val Val Ser Leu Glu Glu Ala Trp Pro Leu His Gly Asp		560
	565	570
Cys Glu Thr Asp Ala Glu Glu Gly Thr Ser Leu Thr Ala Ser Val Val		575
	580	585
Ala Asp Val Arg Lys Ser Gln Leu Pro Ala Glu Gly Asp Ala Gly Ala		590
	595	600
Glu Trp Ala Ala Ala Val Leu Lys Gln Glu Arg Ala His Glu Val Gly		605
	610	615
Ala Gln Gly Gly Pro Pro Val Ala Gln Val Glu Gln Asp Leu Pro Ile		620
625	630	635
Ser Arg Glu Asn Leu Thr Asp Leu Val Val Asp Thr Asp Thr Leu Gly		640
	645	650
Glu Ser Thr Gln Pro Gln Arg Glu Gly Ala Gln Val Pro Thr Gly Arg		655
	660	665
Glu Arg Glu Gln His Val Gly Gly Thr Lys Asp Ser Glu Asp Asn Tyr		670
	675	680
Gly Asp Ser Glu Asp Leu Asp Leu Gln Ala Thr Gln Cys Phe Leu Glu		685
	690	695
Asn Gln Gly Leu Glu Ala Val Gln Ser Met Glu Asp Glu Pro Thr Gln		700
705	710	715
Ala Phe Met Leu Thr Pro Pro Gln Glu Leu Gly Pro Ser His Cys Ser		720
	725	730
Phe Gln Thr Thr Gly Thr Leu Asp Glu Pro Trp Glu Val Leu Ala Thr		735
	740	745
Gln Pro Phe Cys Leu Arg Glu Ser Glu Asp Ser Glu Thr Gln Pro Phe		750
	755	760
Asp Thr His Leu Glu Ala Tyr Gly Pro Cys Leu Ser Pro Pro Arg Ala		765
	770	775
Ile Pro Gly Asp Gln His Pro Glu Ser Pro Val His Thr Glu Pro Met		780
785	790	795
Gly Ile Gln Gly Arg Gly Arg Gln Thr Val Asp Lys Val Met Gly Ile		800
	805	810
Pro Lys Glu Thr Ala Glu Arg Val Gly Pro Glu Arg Gly Pro Leu Glu		815
	820	825
Arg Glu Thr Glu Lys Leu Leu Pro Glu Arg Gln Thr Asp Val Thr Gly		830
	835	840
Glu Glu Glu Leu Thr Lys Gly Lys Gln Asp Arg Glu Gln Lys Gln Leu		845
	850	855
Leu Ala Arg Asp Thr Gln Arg Gln Glu Ser Asp Lys Asn Gly Glu Ser		860
865	870	875
Ala Ser Pro Glu Arg Asp Arg Glu Ser Leu Lys Val Glu Ile Glu Thr		880
	885	890
Ser Glu Glu Ile Gln Glu Lys Gln Val Gln Lys Gln Thr Leu Pro Ser		895
	900	905
Lys Ala Phe Glu Arg Glu Val Glu Arg Pro Val Ala Asn Arg Glu Cys		910
	915	920
Asp Pro Ala Glu Leu Glu Glu Lys Val Pro Lys Val Ile Leu Glu Arg		925
	930	935
Asp Thr Gln Arg Gly Glu Pro Glu Gly Gly Ser Gln Asp Gln Lys Gly		940
945	950	955
Gln Ala Ser Ser Pro Thr Pro Glu Pro Gly Val Gly Ala Gly Asp Leu		960
	965	970
Pro Gly Pro Thr Ser Ala Pro Val Pro Ser Gly Ser Gln Ser Gly Gly		975
	980	985
Arg Gly Ser Pro Val Ser Pro Arg Arg His Gln Lys Gly Leu Leu Asn		990
	995	1000
		1005

Cys Lys Met Pro Pro Ala Glu Lys Ala Ser Arg Ile Arg Ala Ala Glu
 1010 1015 1020
 Lys Val Ser Arg Gly Asp Gln Glu Ser Pro Asp Ala Cys Leu Pro Pro
 1025 1030 1035 1040
 Ala Val Pro Glu Ala Pro Ala Pro Pro Gln Lys Pro Leu Asn Ser Gln
 1045 1050 1055
 Ser Gln Lys His Leu Ala Pro Pro Pro Leu Leu Ser Pro Leu Leu Pro
 1060 1065 1070
 Ser Ile Lys Pro Thr Val Arg Lys Thr Arg Gln Asp Gly Ser Gln Glu
 1075 1080 1085
 Ala Pro Glu Ala Pro Leu Ser Ser Glu Leu Glu Pro Phe His Pro Lys
 1090 1095 1100
 Pro Lys Ile Arg Thr Arg Lys Ser Ser Arg Met Thr Pro Phe Pro Ala
 1105 1110 1115 1120
 Thr Ser Ala Ala Pro Glu Pro His Pro Ser Thr Ser Thr Ala Gln Pro
 1125 1130 1135
 Val Thr Pro Lys Pro Thr Ser Gln Ala Thr Arg Ser Arg Thr Asn Arg
 1140 1145 1150
 Ser Ser Val Lys Thr Pro Glu Pro Val Val Pro Thr Ala Pro Glu Leu
 1155 1160 1165
 Gln Pro Ser Thr Ser Thr Asp Gln Pro Val Thr Ser Glu Pro Thr Ser
 1170 1175 1180
 Gln Val Thr Arg Gly Arg Lys Ser Arg Ser Ser Val Lys Thr Pro Glu
 1185 1190 1195 1200
 Thr Val Val Pro Thr Ala Leu Glu Leu Gln Pro Ser Thr Ser Thr Asp
 1205 1210 1215
 Arg Pro Val Thr Ser Glu Pro Thr Ser Gln Ala Thr Arg Gly Arg Lys
 1220 1225 1230
 Asn Arg Ser Ser Val Lys Thr Pro Glu Pro Val Val Pro Thr Ala Pro
 1235 1240 1245
 Glu Leu Gln Pro Ser Thr Ser Thr Asp Gln Pro Val Thr Ser Glu Pro
 1250 1255 1260
 Thr Tyr Gln Ala Thr Arg Gly Arg Lys Asn Arg Ser Ser Val Lys Thr
 1265 1270 1275 1280
 Pro Glu Pro Val Val Pro Thr Ala Pro Glu Leu Arg Pro Ser Thr Ser
 1285 1290 1295
 Thr Asp Arg Pro Val Thr Pro Lys Pro Thr Ser Arg Thr Thr Arg Ser
 1300 1305 1310
 Arg Thr Asn Met Ser Ser Val Lys Thr Pro Glu Thr Val Val Pro Thr
 1315 1320 1325
 Ala Pro Glu Leu Gln Ile Ser Thr Ser Thr Asp Gln Pro Val Thr Pro
 1330 1335 1340
 Lys Pro Thr Ser Arg Thr Thr Arg Ser Arg Thr Asn Met Ser Ser Val
 1345 1350 1355 1360
 Lys Asn Pro Glu Ser Thr Val Pro Ile Ala Pro Glu Leu Pro Pro Ser
 1365 1370 1375
 Thr Ser Thr Glu Gln Pro Val Thr Pro Glu Pro Thr Ser Arg Ala Thr
 1380 1385 1390
 Arg Gly Arg Lys Asn Arg Ser Ser Gly Lys Thr Pro Glu Thr Leu Val
 1395 1400 1405
 Pro Thr Ala Pro Lys Leu Glu Pro Ser Thr Ser Thr Asp Gln Pro Val
 1410 1415 1420
 Thr Pro Glu Pro Thr Ser Gln Ala Thr Arg Gly Arg Thr Asn Arg Ser
 1425 1430 1435 1440
 Ser Val Lys Thr Pro Glu Thr Val Val Pro Thr Ala Pro Glu Leu Gln
 1445 1450 1455
 Pro Ser Thr Ser Thr Asp Gln Pro Val Thr Pro Glu Pro Thr Ser Gln
 1460 1465 1470
 Ala Thr Arg Gly Arg Thr Asp Arg Ser Ser Val Lys Thr Pro Glu Thr

Val	Val	Pro	Thr	Ala	Pro	Glu	Leu	Gln	Ala	Ser	Ala	Ser	Thr	Asp	Gln	1475	1480	1485	
1490	Pro	Val	Thr	Ser	Glu	Pro	Thr	Ser	Arg	Thr	Thr	Arg	Gly	Arg	Lys	Asn	1495	1500	
1505	Arg	Ser	Ser	Val	Lys	Thr	Pro	Glu	Thr	Val	Val	Pro	Ala	Ala	Pro	Glu	1510	1515	
1520	1525	Leu	Gln	Pro	Pro	Thr	Ser	Thr	Asp	Arg	Pro	Val	Thr	Pro	Glu	Pro	Thr	1530	1535
1540	1545	Ser	Arg	Ala	Thr	Arg	Gly	Arg	Thr	Asn	Arg	Ser	Ser	Val	Lys	Thr	Pro	1550	1555
1560	1565	Glu	Ser	Ile	Val	Pro	Ile	Ala	Pro	Glu	Leu	Gln	Pro	Ser	Thr	Ser	Arg	1570	1575
1580	1585	Asn	Gln	Leu	Val	Thr	Pro	Glu	Pro	Thr	Ser	Arg	Ala	Thr	Arg	Cys	Arg	1590	1595
1600	1605	Thr	Asn	Arg	Ser	Ser	Val	Lys	Thr	Pro	Glu	Pro	Val	Val	Pro	Thr	Ala	1610	1615
1620	1625	Pro	Glu	Pro	His	Pro	Thr	Thr	Ser	Thr	Asp	Gln	Pro	Val	Thr	Pro	Lys	1630	1635
1640	1645	Leu	Thr	Ser	Arg	Ala	Thr	Arg	Arg	Lys	Thr	Asn	Arg	Ser	Ser	Val	Lys	1650	1655
1660	1665	Thr	Pro	Lys	Pro	Val	Glu	Pro	Ala	Ala	Ser	Asp	Leu	Glu	Pro	Phe	Thr	1670	1675
1680	1685	Pro	Thr	Asp	Gln	Ser	Val	Thr	Pro	Glu	Ala	Ile	Ala	Gln	Gly	Gly	Gln	1690	1695
1700	1705	Ser	Lys	Thr	Leu	Arg	Ser	Ser	Thr	Val	Arg	Ala	Met	Pro	Val	Pro	Thr	1710	1715
1720	1725	Thr	Pro	Glu	Phe	Gln	Ser	Pro	Val	Thr	Thr	Asp	Gln	Pro	Ile	Ser	Pro	1730	1735
1740	1745	Glu	Pro	Ile	Thr	Gln	Pro	Ser	Cys	Ile	Lys	Arg	Gln	Arg	Ala	Ala	Gly	1750	1755
1760	1765	Asn	Pro	Gly	Ser	Leu	Ala	Ala	Pro	Ile	Asp	His	Lys	Pro	Cys	Ser	Ala	1770	1775
1780	1785	Pro	Leu	Glu	Pro	Lys	Ser	Gln	Ala	Ser	Arg	Asn	Gln	Arg	Trp	Gly	Ala	1790	1795
1800	1805	Val	Arg	Ala	Ala	Glu	Ser	Leu	Thr	Ala	Ile	Pro	Glu	Pro	Ala	Ser	Pro	1810	1815
1820	1825	Gln	Leu	Leu	Glu	Thr	Pro	Ile	His	Ala	Ser	Gln	Ile	Gln	Lys	Val	Glu	1830	1835
1840	1845	Pro	Ala	Gly	Arg	Ser	Arg	Phe	Thr	Pro	Glu	Leu	Gln	Pro	Lys	Ala	Ser	1850	1855
1860	1865	Gln	Ser	Arg	Lys	Arg	Ser	Leu	Ala	Thr	Met	Asp	Ser	Pro	Pro	His	Gln	1870	1875
1880	1885	Lys	Gln	Pro	Gln	Arg	Gly	Glu	Val	Ser	Gln	Lys	Thr	Val	Ile	Ile	Lys	1890	1895
1900	1905	Glu	Glu	Glu	Glu	Asp	Thr	Ala	Glu	Lys	Pro	Gly	Lys	Glu	Glu	Asp	Val	1910	1915
1920	1925	Val	Thr	Pro	Lys	Pro	Gly	Lys	Arg	Lys	Arg	Asp	Gln	Ala	Glu	Glu	Glu	1930	1935
1940	1945	Pro	Asn	Arg	Ile	Pro	Ser	Arg	Ser	Leu	Arg	Arg	Thr	Lys	Leu	Asn	Gln	1950	
		Glu	Ser	Thr	Ala	Pro	Lys	Val	Leu	Phe	Thr	Gly	Val	Val	Asp	Ala	Arg		
		Gly	Glu	Arg	Ala	Val	Leu	Ala	Leu	Gly	Gly	Ser	Leu	Ala	Gly	Ser	Ala		
		Ala	Glu	Ala	Ser	His	Leu	Val	Thr	Asp	Arg	Ile	Arg	Arg	Thr	Val	Lys		
		Phe	Leu	Cys	Ala	Leu	Gly	Arg	Gly	Ile	Pro	Ile	Leu	Ser	Leu	Asp	Trp		

Leu His Gln Ser Arg Lys Ala Gly Phe Phe Leu Pro Pro Asp Glu Tyr
 1955 1960 1965
 Val Val Thr Asp Pro Glu Gln Glu Lys Asn Phe Gly Phe Ser Leu Gln
 1970 1975 1980
 Asp Ala Leu Ser Arg Ala Arg Glu Arg Arg Leu Leu Glu Gly Tyr Glu
 1985 1990 1995 2000
 Ile Tyr Val Thr Pro Gly Val Gln Pro Pro Pro Gln Met Gly Glu
 2005 2010 2015
 Ile Ile Ser Cys Cys Gly Gly Thr Tyr Leu Pro Ser Met Pro Arg Ser
 2020 2025 2030
 Tyr Lys Pro Gln Arg Val Val Ile Thr Cys Pro Gln Asp Phe Pro His
 2035 2040 2045
 Cys Ser Ile Pro Leu Arg Val Gly Leu Pro Leu Leu Ser Pro Glu Phe
 2050 2055 2060
 Leu Leu Thr Gly Val Leu Lys Gln Glu Ala Lys Pro Glu Ala Phe Val
 2065 2070 2075 2080
 Leu Ser Pro Leu Glu Met Ser Ser Thr
 2085

<210> 29
 <211> 1309
 <212> PRT
 <213> Homo sapiens

<400> 29
 Met Ser Gly Gln Leu Val Gln Trp Lys Ser Ser Pro Asp Arg Val Thr
 1 5 10 15
 Gln Ser Ala Ile Lys Glu Ala Leu His Ser Pro Leu Ala Asp Gly Asp
 20 25 30
 Met Asn Glu Met Asn Val Pro Val Asp Pro Leu Glu Asn Lys Val Asn
 35 40 45
 Ser Thr Asn Ile Ile Glu Gly Ser Pro Lys Ala Asn Pro Asn Pro Val
 50 55 60
 Lys Phe Met Asn Thr Ser Glu Ile Phe Gln Lys Ser Leu Gly Leu Leu
 65 70 75 80
 Asp Glu Ser Pro Arg His Asp Asp Glu Leu Asn Ile Glu Val Gly Asp
 85 90 95
 Asn Asp Arg Pro Asn Ala Asn Ile Leu His Asn Glu Arg Thr Pro Asp
 100 105 110
 Leu Asp Arg Ile Ala Asn Phe Phe Lys Ser Asn Arg Thr Pro Gly Lys
 115 120 125
 Glu Asn Leu Leu Thr Lys Tyr Gln Ser Ser Asp Leu Glu Asp Thr Pro
 130 135 140
 Leu Met Leu Arg Lys Lys Met Thr Phe Gln Thr Pro Thr Asp Pro Leu
 145 150 155 160
 Glu Gln Lys Thr Phe Lys Lys Leu Lys Ser Asp Thr Gly Phe Cys Tyr
 165 170 175
 Tyr Gly Glu Gln Asn Asp Gly Glu Glu Asn Ala Ser Leu Glu Val Thr
 180 185 190
 Glu Ala Asp Ala Thr Phe Val Gln Met Ala Glu Arg Ser Ala Asp Asn
 195 200 205
 Tyr Asp Cys Ala Leu Glu Gly Ile Val Thr Pro Lys Arg Tyr Lys Asp
 210 215 220
 Glu Leu Ser Lys Ser Gly Gly Met Gln Asp Glu Arg Val Gln Lys Thr
 225 230 235 240
 Gln Ile Met Ile Ser Ala Glu Ser Pro Asn Ser Ile Ser Ser Tyr Asp
 245 250 255
 Lys Asn Lys Ile Thr Gly Asn Gly Arg Thr Thr Arg Asn Val Asn Lys

			260				265				270				
Val	Phe	Asn	Asn	Asn	Glu	Asp	Asn	Ile	Gly	Ala	Ile	Glu	Glu	Lys	Asn
		275					280					285			
Pro	Val	Lys	Lys	Lys	Ser	Glu	Asn	Tyr	Ser	Ser	Asp	Asp	Leu	Arg	Glu
		290				295					300				
Arg	Asn	Asn	Gln	Ile	Ile	Gln	Ser	Asn	Glu	Ser	Glu	Glu	Ile	Asn	Glu
305					310					315					320
Leu	Glu	Lys	Asn	Leu	Asn	Val	Ser	Gly	Arg	Glu	Asn	Asp	Val	Asn	Asn
				325					330					335	
Leu	Asp	Ile	Asp	Ile	Asn	Ser	Ala	Val	Ser	Gly	Thr	Pro	Ser	Arg	Asn
			340					345					350		
Asn	Ala	Glu	Glu	Glu	Met	Tyr	Ser	Ser	Glu	Ser	Val	Asn	Asn	Arg	Glu
		355					360					365			
Pro	Ser	Lys	Lys	Trp	Ile	Phe	Arg	Tyr	Ser	Lys	Asp	Lys	Thr	Glu	Asn
		370				375					380				
Asn	Ser	Asn	Arg	Ser	Thr	Gln	Ile	Val	Asn	Asn	Pro	Arg	Thr	Gln	Glu
385					390					395					400
Met	Pro	Leu	Asp	Ser	Ile	Ser	Ile	Asp	Thr	Gln	Pro	Leu	Ser	Lys	Ser
				405					410					415	
Phe	Asn	Thr	Glu	Thr	Asn	Asn	Glu	Leu	Glu	Thr	Gln	Ile	Ile	Val	Ser
			420					425					430		
Ser	Leu	Ser	Gln	Gly	Ile	Ser	Ala	Gln	Lys	Gly	Pro	Val	Phe	His	Ser
		435					440					445			
Thr	Gly	Gln	Thr	Glu	Glu	Ile	Lys	Thr	Gln	Ile	Ile	Asn	Ser	Pro	Glu
		450				455					460				
Gln	Asn	Ala	Leu	Asn	Ala	Thr	Phe	Glu	Thr	Pro	Val	Thr	Leu	Ser	Arg
465					470					475					480
Ile	Asn	Phe	Glu	Pro	Ile	Leu	Glu	Val	Pro	Glu	Thr	Ser	Ser	Pro	Ser
				485					490					495	
Lys	Asn	Thr	Met	Ser	Lys	Pro	Ser	Asn	Ser	Ser	Pro	Ile	Pro	Lys	Glu
			500					505					510		
Lys	Asp	Thr	Phe	Asn	Ile	His	Glu	Arg	Glu	Val	Glu	Thr	Asn	Asn	Val
		515					520					525			
Phe	Ser	Asn	Asp	Ile	Gln	Asn	Ser	Ser	Asn	Ala	Ala	Thr	Arg	Asp	Asp
		530				535					540				
Ile	Ile	Ile	Ala	Gly	Ser	Ser	Asp	Phe	Asn	Glu	Gln	Lys	Glu	Ile	Thr
545					550				555						560
Asp	Arg	Ile	Tyr	Leu	Gln	Leu	Ser	Gly	Lys	Gln	Ile	Ser	Asp	Ser	Gly
				565					570					575	
Ser	Asp	Glu	Thr	Glu	Arg	Met	Ser	Pro	Asn	Glu	Leu	Asp	Thr	Lys	Lys
			580					585					590		
Glu	Ser	Thr	Ile	Met	Ser	Glu	Val	Glu	Leu	Thr	Gln	Glu	Leu	Pro	Glu
		595					600					605			
Val	Glu	Glu	Gln	Gln	Asp	Leu	Gln	Thr	Ser	Pro	Lys	Lys	Leu	Val	Val
		610				615					620</				

Lys Arg Glu Pro Ser Cys Ser Ile Thr Ile Gln Thr Gly Glu Thr Gly
 740 745 750
 Ser Gly Lys Asp Ser Lys Glu Gln Ser Tyr Val Phe Pro Glu Gly Ile
 755 760 765
 Arg Thr Ala Asp Asn Ser Phe Leu Ser Lys Asp Asp Ile Ile Phe Gly
 770 775 780
 Asn Ala Val Trp Cys Gln Tyr Thr Trp Asn Tyr Lys Phe Tyr Pro Gly
 785 790 795 800
 Ile Leu Leu Glu Val Asp Thr Asn Gln Asp Gly Cys Trp Ile Tyr Phe
 805 810 815
 Glu Thr Gly Arg Ser Leu Thr Lys Asp Glu Asp Ile Tyr Tyr Leu Asp
 820 825 830
 Ile Arg Ile Gly Asp Ala Val Thr Phe Asp Gly Asn Glu Tyr Val Val
 835 840 845
 Val Gly Leu Glu Cys Arg Ser His Asp Leu Asn Ile Ile Arg Cys Ile
 850 855 860
 Arg Gly Tyr Asp Thr Val His Leu Lys Lys Lys Asn Ala Ser Gly Leu
 865 870 875 880
 Leu Gly Lys Arg Thr Leu Ile Lys Ala Leu Ser Ser Ile Ser Leu Asp
 885 890 895
 Leu Ser Glu Trp Ala Lys Arg Ala Lys Ile Ile Leu Glu Asp Asn Glu
 900 905 910
 Lys Asn Lys Gly Asp Ala Tyr Arg Tyr Leu Arg His Pro Ile Arg Gly
 915 920 925
 Arg Lys Ser Met Thr Asn Val Leu Ser Pro Lys Lys His Thr Asp Asp
 930 935 940
 Glu Lys Asp Ile Asn Thr His Thr Glu Val Tyr Asn Asn Glu Ile Glu
 945 950 955 960
 Ser Ser Ser Glu Lys Lys Glu Ile Val Lys Lys Asp Ser Arg Asp Ala
 965 970 975
 Leu Ala Glu His Ala Gly Ala Pro Ser Leu Leu Phe Ser Ser Gly Glu
 980 985 990
 Ile Arg Thr Gly Asn Val Phe Asp Lys Cys Ile Phe Val Leu Thr Ser
 995 1000 1005
 Leu Phe Glu Asn Arg Glu Glu Leu Arg Gln Thr Ile Glu Ser Gln Gly
 1010 1015 1020
 Gly Thr Val Ile Glu Ser Gly Phe Ser Thr Leu Phe Asn Phe Thr His
 1025 1030 1035 1040
 Pro Leu Ala Lys Ser Leu Val Asn Lys Gly Asn Thr Asp Asn Ile Arg
 1045 1050 1055
 Glu Leu Ala Leu Lys Leu Ala Trp Lys Pro His Ser Leu Phe Ala Asp
 1060 1065 1070
 Cys Arg Phe Ala Cys Leu Ile Thr Lys Arg His Leu Arg Ser Leu Lys
 1075 1080 1085
 Tyr Leu Glu Thr Leu Ala Leu Gly Trp Pro Thr Leu His Trp Lys Phe
 1090 1095 1100
 Ile Ser Ala Cys Ile Glu Lys Lys Arg Ile Val Pro His Leu Ile Tyr
 1105 1110 1115 1120
 Gln Tyr Leu Leu Pro Ser Gly Glu Ser Phe Arg Leu Ser Leu Asp Ser
 1125 1130 1135
 Pro Ser Lys Gly Gly Ile Ile Lys Ser Asn Asn Ile Phe Ser Phe Tyr
 1140 1145 1150
 Thr Gln Phe Leu Arg Gly Ser Asn Leu Arg Asp Gln Ile Cys Gly Val
 1155 1160 1165
 Lys Lys Met Leu Asn Asp Tyr Ile Val Ile Val Trp Gly Arg Ser Glu
 1170 1175 1180
 Leu Asp Ser Phe Val Lys Phe Ala Phe Ala Cys Leu Ser Ala Gly Arg
 1185 1190 1195 1200
 Met Leu Thr Ile Asp Leu Pro Asn Ile Asp Val Asp Asp Thr Glu Pro

				1205					1210					1215	
Leu	Leu	Asn	Ala	Leu	Asp	Ser	Leu	Val	Pro	Arg	Ile	Gly	Ser	Glu	Leu
			1220						1225					1230	
Ser	Asn	Arg	Lys	Leu	Lys	Phe	Leu	Ile	Tyr	Ala	Asn	Glu	Asn	Asn	Gly
		1235					1240					1245			
Lys	Ser	Gln	Met	Lys	Leu	Leu	Glu	Arg	Leu	Arg	Ser	Gln	Ile	Ser	Leu
	1250					1255				1260					
Lys	Phe	Lys	Lys	Phe	Asn	Tyr	Ile	Phe	His	Thr	Glu	Ser	Lys	Glu	Trp
1265				1270					1275						1280
Leu	Ile	Gln	Thr	Ile	Ile	Asn	Glu	Asp	Thr	Gly	Phe	His	Asp	Asp	Ile
			1285				1290					1295			
Thr	Asp	Asn	Asp	Ile	Tyr	Asn	Thr	Ile	Ser	Glu	Val	Arg			
		1300					1305								

<210> 30
 <211> 3
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 2
 <223> Xaa = phosphorylated Thr or phosphorylated Ser

<221> VARIANT
 <222> 3
 <223> Pro or any amino acid

<400> 30
 Ser Xaa Xaa
 1

<210> 31
 <211> 16
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION
 <222> 7
 <223> Tyrosine at position 7 is phosphorylated Tyrosine

<400> 31
 Met Ala Xaa Xaa Xaa Xaa Thr Pro Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 32
 <211> 15
 <212> PRT
 <213> Homo sapiens

<220>

<221> VARIANT
<222> 3, 4, 5, 6, 8, 9, 10, 11
<223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION
<222> 7
<223> Thr at position 7 is phosphorylated

<400> 32
Met Ala Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys
1 5 10 15

<210> 33
<211> 16
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 3, 4, 5, 6, 9, 10, 11, 12
<223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION
<222> 8
<223> Threonine at position 8 is phosphorylated.

<400> 33
Met Ala Xaa Xaa Xaa Xaa Ser Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys
1 5 10 15

<210> 34
<211> 14
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 3, 4, 5, 8, 9, 10
<223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION
<222> 6
<223> Ser at position 6 is phosphorylated

<400> 34
Met Ala Xaa Xaa Xaa Ser Pro Xaa Xaa Xaa Ala Lys Lys Lys
1 5 10

<210> 35
<211> 15
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 3, 4, 5, 6, 8, 9, 10, 11

<223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION

<222> 7

<223> Ser at position 7 is phosphorylated

<400> 35

Met	Ala	Xaa	Xaa	Xaa	Xaa	Ser	Xaa	Xaa	Xaa	Xaa	Ala	Lys	Lys	Lys
1				5					10					15

<210> 36

<211> 16

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 3, 4, 5, 6, 9, 10, 11, 12

<223> Xaa = Any Amino Acid except Cys.

<221> PHOSPHORYLATION

<222> 8

<223> Thr at position 8 is phosphorylated

<400> 36

Met	Ala	Xaa	Xaa	Xaa	Xaa	Ser	Thr	Xaa	Xaa	Xaa	Xaa	Ala	Lys	Lys	Lys
1				5					10					15	

<210> 37

<400> 37

000

<210> 38

<211> 7

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 1

<223> Xaa at position 1 is Pro or Phe

<221> VARIANT

<222> 2

<223> Xaa at position 2 is Pro or any hydrophobic amino acid

<221> VARIANT

<222> 3

<223> Xaa at position 3 is any hydrophobic amino acid, Ala or Gln

<221> VARIANT

<222> 4

<223> Xaa at position 4 is Thr, Gln, His or Met

<221> VARIANT
<222> 6
<223> Xaa at position 6 is phosphorylated Thr or
phosphorylated Ser

<221> VARIANT
<222> 7
<223> Xaa at position 7 is Pro or any amino acid

<400> 38
Xaa Xaa Xaa Xaa Ser Xaa Xaa
1 5

<210> 39
<211> 7
<212> PRT
<213> Homo sapiens

<220>
<221> PHOSPHORYLATION
<222> 5
<223> Thr at position 5 is phosphorylated Thr

<400> 39
Pro Met Gln Ser Thr Pro Leu
1 5

<210> 40
<211> 20
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> 1
<223> Glx at position 1 is biotinylated

<221> PHOSPHORYLATION
<222> 11
<223> Thr at position 11 is phosphorylated

<221> VARIANT
<222> 9
<223> Xaa at position 9 is a biased mixture of the amino
acids Pro, Leu, Ile, Val, Phe, Met or Trp.

<221> VARIANT
<222> 7, 8, 10, 13, 14, 15, 16
<223> Xaa = Any Amino Acid except Cys

<400> 40
Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Xaa Thr Pro Xaa Xaa Xaa Xaa
1 5 10 15
Ala Lys Lys Lys
20

<210> 41
 <211> 20
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> MOD_RES
 <222> 1
 <223> Amino hexanoic acid at position 1 is biotinylated

 <221> VARIANT
 <222> 7, 8, 10, 13, 14, 15, 16

 7,
 8, 10, 13, 14, 15, 16
 <223> Xaa = Any Amino Acid except Cys

 <221> VARIANT
 <222> 9
 <223> Xaa = biased mixture of Pro, Leu, Ile, Val, Phe,
 Met or Trp.

 <400> 41
 Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Xaa Thr Pro Xaa Xaa Xaa Xaa
 1 5 10 15
 Ala Lys Lys Lys
 20

 <210> 42
 <211> 16
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid

 <221> PHOSPHORYLATION
 <222> 7
 <223> Thr at position 7 is phosphorylated

 <400> 42
 Met Ala Xaa Xaa Xaa Xaa Thr Pro Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

 <210> 43
 <211> 15
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 8, 9, 10, 11
 <223> Xaa = Any Amino Acid

 <221> PHOSPHORYLATION

<222> 7
 <223> Thr at position 7 is phosphorylated

<400> 43
 Met Ala Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 44
 <211> 16
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
 <222> 8
 <223> Thr at position 8 is phosphorylated

<400> 44
 Met Ala Xaa Xaa Xaa Xaa Ser Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 45
 <211> 14
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 8, 9, 10
 <223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
 <222> 6
 <223> Ser at position 6 is phosphorylated

<400> 45
 Met Ala Xaa Xaa Xaa Ser Pro Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10

<210> 46
 <211> 15
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 8, 9, 10, 11
 <223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
 <222> 7
 <223> Serine at position 7 is phosphorylated

<400> 46
 Met Ala Xaa Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 47
 <211> 16
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
 <222> 8
 <223> Ser at position 8 is phosphorylated

<400> 47
 Met Ala Xaa Xaa Xaa Xaa Ser Ser Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 48
 <211> 16
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
 <222> 7
 <223> Thr at position 7 is phosphorylated

<400> 48
 Met Ala Xaa Xaa Xaa Xaa Thr Pro Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 49
 <211> 16
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid

<221> PHOSPHORYLATION
 <222> 8
 <223> Thr at position 8 is phosphorylated

<400> 49
 Met Ala Xaa Xaa Xaa Xaa Ser Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys

<210> 52
 <211> 16
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> PHOSPHORYLATION
 <222> 8
 <223> Thr at position 8 is phosphorylated

 <400> 52
 Met Ala Gly Pro Met Gln Ser Thr Pro Leu Asn Gly Ala Tyr Lys Lys
 1 5 10 15

<210> 53
 <211> 16
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> VARIANT
 <222> 3, 4, 5, 10, 11, 12
 <223> Xaa = Any Amino Acid

 <221> VARIANT
 <222> 6
 <223> Xaa = Ala, Ile, Leu, Met, Asn, Pro, Ser, Thr or Val

<221> VARIANT
 <222> 7
 <223> Xaa = Phosphorylated Ser or Phosphorylated Thr

 <221> VARIANT
 <222> 9
 <223> Xaa = 25% Glu and 75% any amino acid except Arg, Cys, His or Lys

<400> 53
 Met Ala Xaa Xaa Xaa Asx Xaa Thr Gln Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 54
 <211> 15
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 3, 4, 5, 6, 8, 9, 10, 11
 <223> Xaa = Any Amino Acid

 <221> PHOSPHORYLATION
 <222> 7
 <223> Thr at position 7 is phosphorylated

 <400> 54

Met Ala Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 55

<211> 16

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 3, 4, 5, 6, 8, 9, 10, 11, 12

<223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION

<222> 7

<223> Ser at position 7 is phosphorylated

<400> 55

Met Ala Xaa Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 56

<211> 16

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 3, 4, 5, 7, 9, 10, 11

<223> Xaa = Any Amino Acid except Cys

<221> VARIANT

<222> 6

<223> Xaa = Ala, Ile, Leu, Met, Asn, Pro, Ser, Thr or Val

<221> VARIANT

<222> 7

<223> Xaa = phosphorylated Ser or phosphorylated Thr

<221> VARIANT

<222> 9

<223> Xaa =25% Glu and 75% any amino acid except Arg, Cys, His or Lys

<400> 56

Met Ala Xaa Xaa Xaa Xaa Xaa Gln Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 57

<211> 20

<212> PRT

<213> Homo sapiens

<220>

<221> MOD_RES

<222> 1
 <223> Glx at position 1 is biotinylated

 <221> VARIANT
 <222> 7,8,9,14,15,16
 <223> Xaa = any amino acid except

 <221> VARIANT
 <222> 10
 <223> Xaa = biased mixture of Ala, Ile, Leu, Met, Asn,
 Pro, Ser, Thr, or Val.

 <221> VARIANT
 <222> 11
 <223> Xaa = phosphorylated Ser or phosphorylated Thr

 <221> VARIANT
 <222> 13
 <223> Xaa = biased mixture of 25% Glu and 75% any amino
 acid except Arg, Cys, His, or Lys.

 <400> 57
 Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Xaa Xaa Gln Xaa Xaa Xaa Xaa
 1 5 10 15
 Ala Lys Lys Lys
 20

 <210> 58
 <211> 20
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> MOD_RES
 <222> 1
 <223> Glx at position 1 is biotinylated

 <221> VARIANT
 <222> 10
 <223> Xaa = Ala, Ile, Leu, Met, Asn, Pro, Ser, Thr or
 Val.

 <221> VARIANT
 <222> 11
 <223> Xaa = Ser or Thr.

 <221> VARIANT
 <222> 13
 <223> Xaa = 25% Glu and 75% any amino acid except Arg,
 Cys, His or Lys

 <221> VARIANT
 <222> 7, 8, 9, 14, 15, 16
 <223> Xaa= any amino acid

 <400> 58
 Glx Gly Glx Gly Gly Ala Xaa Xaa Xaa Xaa Xaa Gln Xaa Xaa Xaa Xaa
 1 5 10 15

Ala Lys Lys Lys
20

<210> 59
<211> 15
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 6
<223> Xaa = biased mixture Ala, Ile, Leu, Met, Asn, Pro,
Ser, Thr, or Val

<221> VARIANT
<222> 7
<223> Xaa = phosphorylated Ser or phosphorylated Thr at
position 7

<221> VARIANT
<222> 9
<223> Xaa = biased mixture of 25% Glu and 75% any amino
acid except Arg, Cys, His or Lys.

<221> VARIANT
<222> 3, 4, 5, 10, 11, 12
<223> Xaa = any amino acid except Cys.

<400> 59
Gly Ala Xaa Xaa Xaa Asx Xaa Gln Xaa Xaa Xaa Ala Lys Lys Lys
1 5 10 15

<210> 60
<211> 15
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 3, 4, 5, 6, 8, 9, 10, 11
<223> Xaa = Any Amino Acid except Cys

<221> PHOSPHORYLATION
<222> 7
<223> Thr at position 7 is phosphorylated

<400> 60
Met Ala Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Ala Lys Lys Lys
1 5 10 15

<210> 61
<211> 16
<212> PRT
<213> Homo sapiens

<220>

<221> VARIANT
 <222> 3, 4, 5, 6, 8, 9, 10, 11, 12
 <223> Xaa = Any Amino Acid except Cys.

<221> PHOSPHORYLATION
 <222> 7
 <223> Ser at position 7 is phosphorylated

<400> 61
 Met Ala Xaa Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Xaa Ala Lys Lys Lys
 1 5 10 15

<210> 62
 <211> 15
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 8
 <223> Thr at position 8 is phosphorylated

<400> 62
 Met Ala Gly Pro Met Gln Ser Thr Pro Leu Asn Gly Ala Lys Lys
 1 5 10 15

<210> 63
 <211> 15
 <212> PRT
 <213> Homo sapiens

<400> 63
 Met Ala Gly Pro Met Gln Ser Thr Pro Leu Asn Gly Ala Lys Lys
 1 5 10 15

<210> 64
 <211> 9
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 4
 <223> Xaa = phosphorylated Ser or phosphorylated Thr

<400> 64
 Tyr Asp Ile Xaa Gln Val Phe Pro Phe
 1 5

<210> 65
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 65

Gly Ala Ala Tyr Asp Ile Ser Gln Val Phe Pro Phe Ala Lys Lys Lys
 1 5 10 15

<210> 66
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 66
 Gly Ala Ala Tyr Asp Ile Thr Gln Val Phe Pro Phe Ala Lys Lys Lys
 1 5 10 15

<210> 67
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 67
 Gly Ala Ala Tyr Asp Ile Thr Gln Val Phe Pro Phe Ala Lys Lys Lys
 1 5 10 15

<210> 68
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 68
 Gly Ala Ala Tyr Asp Ile Ser Gln Val Phe Pro Phe Ala Lys Lys Lys
 1 5 10 15

<210> 69
 <211> 278
 <212> PRT
 <213> Homo sapiens

<400> 69
 Ser Ile Ala Pro Ser Ser Leu Asp Pro Ser Asn Arg Lys Pro Leu Thr
 1 5 10 15
 Val Leu Asn Lys Gly Leu Glu Asn Pro Leu Pro Glu Arg Pro Arg Glu
 20 25 30
 Lys Glu Glu Pro Val Val Arg Glu Thr Gly Glu Val Val Asp Cys His
 35 40 45
 Leu Ser Asp Met Leu Gln Gln Leu His Ser Val Asn Ala Ser Lys Pro
 50 55 60
 Ser Glu Arg Gly Leu Val Arg Gln Glu Glu Ala Glu Asp Pro Ala Cys
 65 70 75 80
 Ile Pro Ile Phe Trp Val Ser Lys Trp Val Asp Tyr Ser Asp Lys Tyr
 85 90 95
 Gly Leu Gly Tyr Gln Leu Cys Asp Asn Ser Val Gly Val Leu Phe Asn
 100 105 110
 Asp Ser Thr Arg Leu Ile Leu Tyr Asn Asp Gly Asp Ser Leu Gln Tyr
 115 120 125
 Ile Glu Arg Asp Gly Thr Glu Ser Tyr Leu Thr Val Ser Ser His Pro
 130 135 140
 Asn Ser Leu Met Lys Lys Ile Thr Leu Leu Lys Tyr Phe Arg Asn Tyr

145					150				155				160
Met	Ser	Glu	His	Leu	Leu	Lys	Ala	Gly	Ala	Asn	Ile	Thr	Pro
				165					170				175
Gly	Asp	Glu	Leu	Ala	Arg	Leu	Pro	Tyr	Leu	Arg	Thr	Trp	Phe
			180					185					190
Arg	Ser	Ala	Ile	Ile	Leu	His	Leu	Ser	Asn	Gly	Ser	Val	Gln
		195					200					205	Ile
Phe	Phe	Gln	Asp	His	Thr	Lys	Leu	Ile	Leu	Cys	Pro	Leu	Met
	210					215					220	Ala	Ala
Val	Thr	Tyr	Ile	Asp	Glu	Lys	Arg	Asp	Phe	Arg	Thr	Tyr	Arg
225					230					235			240
Leu	Leu	Glu	Glu	Tyr	Gly	Cys	Cys	Lys	Glu	Leu	Ala	Ser	Arg
				245					250				255
Tyr	Ala	Arg	Thr	Met	Val	Asp	Lys	Leu	Leu	Ser	Ser	Arg	Ser
			260					265					270
Asn	Arg	Leu	Lys	Ala	Ser								
		275											

<210> 70
 <211> 282
 <212> PRT
 <213> Homo sapiens

<400> 70													
Ser	Ile	Ala	Pro	Ser	Thr	Ile	Asp	Gln	Ser	Leu	Arg	Lys	Pro
1				5					10				15
Ala	Ile	Asn	Lys	Gly	Gln	Asp	Ser	Pro	Leu	Val	Glu	Lys	Gln
			20					25					30
Pro	Ala	Lys	Glu	Glu	Glu	Met	Gln	Gln	Pro	Glu	Phe	Thr	Glu
		35				40					45		Pro
Asp	Cys	Tyr	Leu	Ser	Glu	Met	Leu	Gln	Gln	Leu	Thr	Cys	Leu
	50					55				60			Asn
Val	Lys	Pro	Ser	Glu	Arg	Ala	Leu	Ile	Arg	Gln	Glu	Glu	Ala
65					70				75				Glu
Pro	Ala	Ser	Ile	Pro	Ile	Phe	Trp	Ile	Ser	Lys	Trp	Val	Asp
			85						90				Tyr
Asp	Lys	Tyr	Gly	Leu	Gly	Tyr	Gln	Leu	Cys	Asp	Asn	Ser	Val
			100					105					Gly
Leu	Phe	Asn	Asp	Ser	Thr	Arg	Leu	Ile	Met	Tyr	Asn	Asp	Gly
		115					120					125	Asp
Leu	Gln	Tyr	Ile	Glu	Arg	Asn	Asn	Thr	Glu	Ser	Tyr	Leu	Asn
	130					135					140		Val
Ser	Tyr	Pro	Thr	Thr	Leu	Thr	Lys	Lys	Ile	Thr	Leu	Leu	Lys
145					150				155				Tyr
Arg	Asn	Tyr	Met	Ser	Glu	His	Leu	Leu	Lys	Ala	Gly	Ala	Asn
			165						170				Thr
Pro	Arg	Glu	Gly	Asp	Glu	Leu	Ala	Arg	Leu	Pro	Phe	Leu	Arg
		180						185				190	Thr
Phe	Arg	Thr	Arg	Ser	Ala	Ile	Ile	Leu	His	Leu	Ser	Asn	Gly
		195					200				205		Thr
Gln	Ile	Asn	Phe	Phe	Gln	Asp	His	Thr	Lys	Ile	Ile	Leu	Cys
	210					215				220		Pro	Leu
Met	Ala	Ala	Val	Ser	Tyr	Ile	Asp	Glu	Lys	Arg	Glu	Phe	Arg
225					230					235			Thr
Lys	Leu	Ser	Leu	Ile	Gln	Glu	Phe	Gly	Cys	Cys	Lys	Glu	Leu
				245					250				Ala
Arg	Leu	Arg	Tyr	Ala	Arg	Thr	Met	Val	Glu	Lys	Leu	Gln	Ser
			260					265					Ser
													Lys

Ser Ala Val Ala His Val Lys Ala Ser Ala
 275 280

<210> 71
 <211> 279
 <212> PRT
 <213> Homo sapiens

<400> 71
 Gly Ser Asn Asp Thr Ile Glu Asp Ser Met His Arg Lys Pro Leu Met
 1 5 10 15
 Glu Met Asn Gly Ile Arg Pro Asp Asp Thr Arg Leu Glu Ser Thr Phe
 20 25 30
 Leu Lys Ala Asn Leu His Asp Ala Ile Thr Ala Ser Ala Gln Val Cys
 35 40 45
 Arg His Ser Glu Asp Tyr Arg Ser Asp Ile Glu Ser Leu Tyr Gln Gln
 50 55 60
 Leu Thr Asn Leu Ile Asn Gly Lys Pro Arg Ile Leu Gln Gly Asn Leu
 65 70 75 80
 Gly Asp Glu Asn Thr Asp Pro Ala Ala Gln Pro Leu Phe Trp Ile Ser
 85 90 95
 Lys Trp Val Asp Tyr Ser Asp Lys Tyr Gly Phe Gly Tyr Gln Leu Cys
 100 105 110
 Asp Glu Gly Ile Gly Val Met Phe Asn Asp Thr Thr Lys Leu Ile Leu
 115 120 125
 Leu Pro Asn Gln Ile Asn Val His Phe Ile Asp Lys Asp Gly Lys Glu
 130 135 140
 Thr Tyr Met Thr Thr Thr Asp Tyr Cys Lys Ser Leu Asp Lys Lys Met
 145 150 155 160
 Lys Leu Leu Ser Tyr Phe Lys Arg Tyr Met Ile Glu His Leu Val Lys
 165 170 175
 Ala Gly Ala Asn Asn Val Asn Ile Glu Ser Asp Gln Ile Ser Arg Met
 180 185 190
 Pro His Leu His Ser Trp Phe Arg Thr Thr Cys Ala Val Val Met His
 195 200 205
 Leu Thr Asn Gly Ser Val Gln Leu Asn Phe Ser Asp His Met Lys Leu
 210 215 220
 Ile Leu Cys Pro Arg Met Ser Ala Ile Thr Tyr Met Asp Gln Glu Lys
 225 230 235 240
 Asn Phe Arg Thr Tyr Arg Phe Ser Thr Ile Val Glu Asn Gly Val Ser
 245 250 255
 Lys Asp Leu Tyr Gln Lys Ile Arg Tyr Ala Gln Glu Lys Leu Arg Lys
 260 265 270
 Met Leu Glu Lys Met Phe Thr
 275

<210> 72
 <211> 197
 <212> PRT
 <213> Homo sapiens

<400> 72
 Pro Ile Phe Trp Val Ser Lys Trp Val Asp Tyr Ser Asp Lys Tyr Gly
 1 5 10 15
 Leu Gly Tyr Gln Leu Cys Asp Asn Ser Val Gly Val Leu Phe Asn Asp
 20 25 30
 Ser Thr Arg Leu Ile Leu Tyr Asn Asp Gly Asp Ser Leu Gln Tyr Ile

<212> PRT
 <213> Homo sapiens

<400> 74

Pro	Ile	Phe	Trp	Val	Ser	Lys	Trp	Val	Asp	Tyr	Ser	Asp	Lys	Tyr	Gly
1				5					10					15	
Leu	Gly	Tyr	Gln	Leu	Cys	Asp	Asn	Ser	Val	Gly	Val	Leu	Phe	Asn	Asp
			20					25					30		
Ser	Thr	Arg	Leu	Ile	Leu	Tyr	Asn	Asp	Gly	Asp	Ser	Leu	Gln	Tyr	Ile
		35					40					45			
Glu	Arg	Asp	Gly	Thr	Glu	Ser	Tyr	Leu	Thr	Val	Ser	Ser	His	Pro	Asn
		50				55					60				
Ser	Leu	Met	Lys	Lys	Ile	Thr	Leu	Leu	Asn	Tyr	Phe	Arg	Asn	Tyr	Met
65					70					75					80
Ser	Glu	His	Leu	Leu	Lys	Ala	Gly	Ala	Asn	Ile	Thr	Pro	Arg	Glu	Gly
			85						90					95	
Asp	Glu	Leu	Ala	Arg	Leu	Pro	Tyr	Leu	Arg	Thr	Trp	Phe	Arg	Thr	Arg
			100					105					110		
Ser	Ala	Ile	Ile	Leu	His	Leu	Ser	Asn	Gly	Thr	Val	Gln	Ile	Asn	Phe
		115						120				125			
Phe	Gln	Asp	His	Thr	Lys	Leu	Ile	Arg	Gly	Pro	Leu	Met	Ala	Ala	Val
	130					135					140				
Thr	Tyr	Ile	Asn	Glu	Lys	Arg	Asp	Phe	Arg	Thr	Tyr	Arg	Leu	Ser	Leu
145					150					155					160
Leu	Glu	Glu	Tyr	Gly	Cys	Cys	Lys	Glu	Leu	Ala	Ser	Arg	Leu	Arg	Tyr
			165					170						175	
Ala	Arg	Thr	Met	Val	Asp	Lys	Leu	Leu	Ser	Ser	Arg	Ser	Ala	Cys	Asn
			180					185					190		
Arg	Leu	Lys	Ala	Ser											
		195													

<210> 75
 <211> 240
 <212> PRT
 <213> Homo sapiens

<400> 75

Pro	Val	Phe	Trp	Ile	Ser	Lys	Trp	Val	Asp	Tyr	Ser	Asp	Lys	Tyr	Gly
1				5					10					15	
Ile	Gly	Tyr	Gln	Leu	Cys	Asp	Asn	Ser	Val	Gly	Val	Leu	Phe	Asn	Asp
			20					25					30		
Asn	Ser	Arg	Ile	Met	Leu	Asp	Gln	Ala	Gly	Asn	Glu	Leu	Thr	Tyr	Ile
		35					40					45			
Glu	Lys	Ser	Asn	Lys	Glu	His	Tyr	Phe	Ser	Met	His	Ser	Gly	Glu	Met
	50					55					60				
Pro	Gly	Leu	Leu	Asn	Lys	Lys	Val	Thr	Leu	Leu	Lys	Tyr	Phe	Arg	Ser
65					70					75					80
Tyr	Met	Asn	Asp	His	Leu	Val	Lys	Ala	Gly	Glu	Gly	Ser	Glu	Gln	Arg
			85					90						95	
Ala	Gly	Asp	Asp	Leu	Ala	Arg	Leu	Pro	Thr	Leu	Arg	Val	Trp	Phe	Arg
			100					105					110		
Thr	Lys	Ser	Ala	Ile	Val	Leu	His	Leu	Ser	Asn	Gly	Thr	Val	Gln	Ile
		115						120					125		
Asn	Phe	Phe	Asn	Asp	His	Val	Lys	Met	Met	Met	Cys	Pro	Leu	Met	Gln
	130					135					140				
Ala	Val	Thr	Phe	Ile	Asp	Gln	Asn	Lys	Arg	Met	Leu	Thr	Tyr	Lys	Leu
145					150					155					160
Asn	Asn	Leu	Gln	Arg	Asn	Gly	Cys	Pro	Glu	Lys	Phe	Leu	His	Arg	Leu

Lys	Tyr	Ala	Lys	Thr	Met	Ile	Glu	Arg	Leu	Met	Ser	Asp	Ala	Asn	Val
			180					185					190		
Val	Ser	Gln	Asn	Pro	Ala	Arg	Gln	Pro	Asp	Met	Pro	Arg	Ser	Met	Ala
		195					200					205			
Ala	Ala	Arg	Ser	Ala	Ser	Ala	Gly	Ser	Arg	Gly	Pro	Asn	Gln	Ala	Ala
	210					215					220				
Ser	His	Leu	Pro	Gln	Ser	Ala	Ser	Gly	Ser	Asn	Ile	His	Pro	Arg	Arg
225					230					235					240

<210> 76
 <211> 189
 <212> PRT
 <213> Homo sapiens

<400> 76

Pro	Leu	Phe	Trp	Ile	Ser	Lys	Trp	Val	Asp	Tyr	Ser	Asp	Lys	Tyr	Gly
1				5					10					15	
Phe	Gly	Tyr	Gln	Leu	Cys	Asp	Glu	Gly	Ile	Gly	Val	Met	Phe	Asn	Asp
			20					25					30		
Thr	Thr	Lys	Leu	Ile	Leu	Leu	Pro	Asn	Gln	Ile	Asn	Val	His	Phe	Ile
		35					40					45			
Asp	Lys	Asp	Gly	Lys	Glu	Thr	Tyr	Met	Thr	Thr	Thr	Asp	Tyr	Cys	Lys
	50					55					60				
Ser	Leu	Asp	Lys	Lys	Met	Lys	Leu	Leu	Ser	Tyr	Phe	Lys	Arg	Tyr	Met
65					70					75					80
Ile	Glu	His	Leu	Val	Lys	Ala	Gly	Ala	Asn	Asn	Val	Asn	Ile	Glu	Ser
				85					90					95	
Asp	Gln	Ile	Ser	Arg	Met	Pro	His	Leu	His	Ser	Trp	Phe	Arg	Thr	Thr
			100					105					110		
Cys	Ala	Val	Val	Met	His	Leu	Thr	Asn	Gly	Ser	Val	Gln	Leu	Asn	Phe
			115					120				125			
Ser	Asp	His	Met	Lys	Leu	Ile	Leu	Cys	Pro	Arg	Met	Ser	Ala	Ile	Thr
	130					135					140				
Tyr	Met	Asp	Gln	Glu	Lys	Asn	Phe	Arg	Thr	Tyr	Arg	Phe	Ser	Thr	Ile
145					150					155					160
Val	Glu	Asn	Gly	Val	Ser	Lys	Asp	Leu	Tyr	Gln	Lys	Ile	Arg	Tyr	Ala
				165					170					175	
Gln	Glu	Lys	Leu	Arg	Lys	Met	Leu	Glu	Lys	Met	Phe	Thr			
			180					185							

<210> 77
 <211> 198
 <212> PRT
 <213> Homo sapiens

<400> 77

Pro	Ile	Phe	Trp	Ile	Ser	Lys	Trp	Val	Asp	Tyr	Ser	Asp	Lys	Tyr	Gly
1				5					10					15	
Leu	Gly	Tyr	Gln	Leu	Cys	Asp	Asn	Ser	Val	Gly	Val	Leu	Phe	Asn	Asp
			20					25					30		
Ser	Thr	Arg	Leu	Ile	Met	Tyr	Asn	Asp	Gly	Asp	Ser	Leu	Gln	Tyr	Ile
		35					40					45			
Glu	Arg	Asn	Asn	Thr	Glu	Ser	Tyr	Leu	Asn	Val	Arg	Ser	Tyr	Pro	Thr
	50					55					60				
Thr	Leu	Thr	Lys	Lys	Ile	Thr	Leu	Leu	Lys	Tyr	Phe	Arg	Asn	Tyr	Met
65					70					75					80

Ser	Glu	His	Leu	Leu	Lys	Ala	Gly	Ala	Asn	Thr	Thr	Pro	Arg	Glu	Gly
				85					90					95	
Asp	Glu	Leu	Ala	Arg	Leu	Pro	Phe	Leu	Arg	Thr	Trp	Phe	Arg	Thr	Arg
			100					105					110		
Ser	Ala	Ile	Ile	Leu	His	Leu	Ser	Asn	Gly	Thr	Val	Gln	Ile	Asn	Phe
		115					120					125			
Phe	Gln	Asp	His	Thr	Lys	Ile	Ile	Leu	Cys	Pro	Leu	Met	Ala	Ala	Val
	130					135					140				
Ser	Tyr	Ile	Asp	Glu	Lys	Arg	Glu	Phe	Arg	Thr	Tyr	Lys	Leu	Ser	Leu
145					150					155					160
Ile	Gln	Glu	Phe	Gly	Cys	Cys	Lys	Glu	Leu	Ala	Ser	Arg	Leu	Arg	Tyr
				165					170					175	
Ala	Arg	Thr	Met	Val	Glu	Lys	Leu	Gln	Ser	Ser	Lys	Ser	Ala	Val	Ala
			180					185					190		
His	Val	Lys	Ala	Ser	Ala										
			195												

<210> 78
 <211> 186
 <212> PRT
 <213> Homo sapiens

<400> 78															
Phe	Phe	Gln	Trp	Val	Thr	Lys	Trp	Val	Asp	Tyr	Ser	Asn	Lys	Tyr	Gly
1				5					10					15	
Phe	Gly	Tyr	Gln	Leu	Ser	Asp	His	Thr	Val	Gly	Val	Leu	Phe	Asn	Asn
			20					25				30			
Gly	Ala	His	Met	Ser	Leu	Leu	Pro	Asp	Lys	Lys	Thr	Val	His	Tyr	Tyr
		35					40					45			
Ala	Glu	Leu	Gly	Gln	Cys	Ser	Val	Phe	Pro	Ala	Thr	Asp	Ala	Pro	Glu
	50					55					60				
Gln	Phe	Ile	Ser	Gln	Val	Thr	Val	Leu	Lys	Tyr	Phe	Ser	His	Tyr	Met
65					70					75					80
Glu	Glu	Asn	Leu	Met	Asp	Gly	Gly	Asp	Leu	Pro	Ser	Val	Thr	Asp	Ile
			85					90						95	
Arg	Arg	Pro	Arg	Leu	Tyr	Leu	Leu	Gln	Trp	Leu	Lys	Ser	Asp	Lys	Ala
			100					105					110		
Leu	Met	Met	Leu	Phe	Asn	Asp	Gly	Thr	Phe	Gln	Val	Asn	Phe	Tyr	His
		115					120					125			
Asp	His	Thr	Lys	Ile	Ile	Ile	Cys	Ser	Gln	Asn	Glu	Glu	Tyr	Leu	Leu
	130					135					140				
Thr	Tyr	Ile	Asn	Glu	Asp	Arg	Ile	Ser	Thr	Thr	Phe	Arg	Leu	Thr	Thr
145					150					155					160
Leu	Leu	Met	Ser	Gly	Cys	Ser	Ser	Glu	Leu	Lys	Asn	Arg	Met	Glu	Tyr
				165					170					175	
Ala	Leu	Asn	Met	Leu	Leu	Gln	Arg	Cys	Asn						
			180					185							

<210> 79
 <211> 186
 <212> PRT
 <213> Homo sapiens

<400> 79															
Ser	Phe	Gln	Trp	Val	Thr	Lys	Trp	Val	Asp	Tyr	Ser	Asn	Lys	Tyr	Gly
1				5					10					15	
Phe	Gly	Tyr	Gln	Leu	Ser	Asp	His	Thr	Val	Gly	Val	Leu	Phe	Asn	Asn

<400> 81
Pro Ile Phe Trp Val Ser Gln Trp Val His Phe Pro Asn His Gly Ile
1 5 10 15
Gly Tyr Arg Leu Cys Glu Asn Ser Ser Gly Met Leu Phe Asn Asp Asn
20 25 30
Thr Gln Met Lys Val Asn Ser Ala Gly Asn Gln Leu Thr Phe Val Asp
35 40 45
Glu Asn Asn Thr Glu Gln Phe Tyr Thr Met Asn Asp Gln Val Pro Met
50 55 60
Asn Leu Gln Thr Lys Ile Asn Ile Phe Ser Asn Val Gln Ser Tyr Met
65 70 75 80
Asn Thr His Leu Glu Ala Asp Thr His Leu Glu Ala Glu Asp Gln Cys
85 90 95
Val Asn Lys Val Pro Pro Leu Arg Asn Phe Ala Arg Leu Pro Thr Ile
100 105 110
Gln Asn Trp Phe Glu Thr Lys Ser Ala Val Ile Phe His Leu Ser Asn
115 120 125
Gly Thr Val Gln Ile Asn Phe Leu Asp His Val Lys Met Val Leu Cys
130 135 140
Pro Leu Leu Lys Ser Val Thr Phe Ile Glu Glu Asn Lys Arg Val Ser
145 150 155 160
Thr Phe Thr Phe Ala Asn Ile Leu Thr Asn Ser Cys Pro Lys Lys Tyr
165 170 175
Leu Ser Arg Ile Glu Tyr Ala Gln Ala Lys Ile Lys Leu Leu Arg Pro
180 185 190
Thr Asn Asn Gln Glu His Val Val Tyr Val Asp Ser Pro Cys Arg Pro
195 200 205
Thr Thr Ser Asn Thr Ala His Gly Ala Pro Leu Ala Ser Ser Arg Tyr
210 215 220
Leu Ala
225

<210> 82
<211> 189
<212> PRT
<213> Homo sapiens

<400> 82
Ser Phe His Trp Val Thr Lys Trp Val Asp Tyr Ser Asn Lys Tyr Gly
1 5 10 15
Phe Gly Tyr Gln Leu Ser Asp His Thr Val Gly Val Leu Phe Asn Asn
20 25 30
Gly Ala His Met Ser Phe Leu Pro Asp Lys Lys Thr Val His Tyr Tyr
35 40 45
Ala Glu Leu Gly Gln Cys Ser Val Phe Pro Ala Thr Glu Ala Pro Glu
50 55 60
Gln Phe Ile Ser Gln Val Thr Val Leu Lys Tyr Phe Ser His Tyr Met
65 70 75 80
Glu Glu Asn Leu Met Asp Gly Gly Asp Leu Pro Ser Val Thr Asp Val
85 90 95
Cys Arg Pro Arg Leu Tyr Leu Leu Gln Trp Leu Lys Ser Asp Lys Ala
100 105 110
Leu Met Met Leu Phe Asn Asp Gly Thr Phe Gln Val Asn Phe Tyr His
115 120 125
Asp His Thr Lys Ile Ile Ile Ala Asn Gln Asn Asp Glu Tyr Val Leu
130 135 140
Thr Tyr Ile Asn Glu Asp Arg Met Ser Thr Thr Phe His Leu Ser Thr
145 150 155 160

Leu	Leu	Ile	Ser	Gly	Gly	Ser	Ser	Asp	Leu	Lys	Asn	Arg	Met	Glu	Tyr
				165					170					175	
Ala	Leu	Asn	Met	Leu	Leu	Gln	Arg	Cys	Asn	Glu	Val	Ala			
			180					185							

<210> 83
 <211> 187
 <212> PRT
 <213> Homo sapiens

Pro	Leu	Val	Trp	Phe	Ser	Glu	Trp	Val	Gly	Phe	Ser	Asn	Lys	Phe	Gly
1				5					10					15	
Phe	Gly	Tyr	Gln	Leu	Ser	Ser	Arg	Arg	Val	Ala	Val	Leu	Phe	Asn	Asp
			20					25					30		
Gly	Thr	His	Met	Ala	Leu	Ser	Ala	Asn	Arg	Lys	Thr	Val	His	Tyr	Asn
		35					40					45			
Pro	Thr	Ser	Thr	Lys	His	Phe	Ser	Phe	Ser	Val	Gly	Ala	Val	Arg	Arg
	50				55						60				
Ala	Leu	Gln	Pro	Gln	Leu	Gly	Ile	Leu	Arg	Tyr	Phe	Ala	Ser	Tyr	Met
65				70					75						80
Glu	Gln	His	Leu	Met	Lys	Gly	Gly	Asp	Leu	Pro	Ser	Val	Glu	Glu	Val
			85						90					95	
Glu	Val	Pro	Ala	Pro	Pro	Leu	Leu	Leu	Gln	Trp	Val	Lys	Thr	Asp	Gln
			100					105					110		
Ala	Leu	Leu	Met	Leu	Phe	Ser	Asp	Gly	Thr	Val	Gln	Val	Asn	Phe	Tyr
		115					120					125			
Gly	Asp	His	Thr	Lys	Leu	Ile	Leu	Ser	Gly	Trp	Glu	Pro	Leu	Leu	Val
	130				135						140				
Thr	Phe	Val	Ala	Arg	Asn	Arg	Ser	Ala	Cys	Thr	Tyr	Leu	Ala	Ser	His
145					150					155					160
Leu	Arg	Gln	Leu	Gly	Cys	Ser	Pro	Asp	Leu	Arg	Gln	Arg	Leu	Arg	Tyr
			165						170						175
Ala	Leu	Arg	Leu	Leu	Arg	Asp	Arg	Ser	Pro	Ala					
			180					185							

<210> 84
 <211> 187
 <212> PRT
 <213> Homo sapiens

Pro	Leu	Val	Trp	Val	Ser	Lys	Trp	Val	Asp	Tyr	Ser	Asn	Lys	Phe	Gly
1				5					10					15	
Phe	Gly	Tyr	Gln	Leu	Ser	Ser	Arg	Arg	Val	Ala	Val	Leu	Phe	Asn	Asp
			20					25					30		
Gly	Thr	His	Met	Ala	Leu	Ser	Ala	Asn	Arg	Lys	Thr	Val	His	Tyr	Asn
		35					40					45			
Pro	Thr	Ser	Thr	Lys	His	Phe	Ser	Phe	Ser	Met	Gly	Ser	Val	Pro	Arg
	50				55					60					
Ala	Leu	Gln	Pro	Gln	Leu	Gly	Ile	Leu	Arg	Tyr	Phe	Ala	Ser	Tyr	Met
65				70					75						80
Glu	Gln	His	Leu	Met	Lys	Gly	Gly	Asp	Leu	Pro	Ser	Val	Glu	Glu	Ala
			85						90					95	
Glu	Val	Pro	Ala	Pro	Pro	Leu	Leu	Leu	Gln	Trp	Val	Lys	Thr	Asp	Gln
			100					105					110		
Ala	Leu	Leu	Met	Leu	Phe	Ser	Asp	Gly	Thr	Val	Gln	Val	Asn	Phe	Tyr

Glu	Lys	Asn	Leu	Met	Lys	Gly	Gly	Asp	Leu	Pro	Cys	His	Glu	Glu	Gly
				85					90					95	
Ser	Gln	Ala	Pro	Leu	Leu	Leu	Leu	Gln	Trp	Val	Lys	Thr	Glu	His	Ala
			100					105					110		
Leu	Leu	Met	Leu	Phe	Ser	Asn	Gly	Thr	Leu	Gln	Val	Asn	Phe	Tyr	Asn
		115					120					125			
Asp	His	Thr	Lys	Ile	Ile	Leu	Cys	Lys	Pro	Gln	Asp	Ala	Tyr	Leu	Leu
		130				135					140				
Thr	Tyr	Ile	Asn	Arg	Asp	Arg	Asn	Ser	Gln	Thr	Phe	Leu	Leu	Ser	Thr
					150					155					160
Leu	Ala	Gln	Thr	Gly	Cys	Asn	Ser	Glu	Met	Tyr	His	Arg	Leu	Lys	Tyr
				165					170					175	
Thr	Val	Lys	Leu	Leu	Gln	Gln	Lys	Ala	Glu	Ser					
			180					185							

<210> 87
 <211> 99
 <212> PRT
 <213> Homo sapiens

<400> 87

Pro	Ile	Phe	Trp	Val	Ser	Lys	Trp	Val	Asp	Tyr	Ser	Asp	Lys	Tyr	Gly
1				5					10					15	
Leu	Gly	Tyr	Gln	Leu	Cys	Asp	Asn	Ser	Val	Gly	Val	Leu	Phe	Asn	Asp
			20					25					30		
Ser	Thr	Arg	Leu	Ile	Leu	Tyr	Asn	Asp	Gly	Asp	Ser	Leu	Gln	Tyr	Ile
		35					40					45			
Glu	Arg	Asp	Gly	Thr	Glu	Ser	Tyr	Leu	Thr	Val	Ser	Ser	His	Pro	Asn
		50				55					60				
Ser	Leu	Met	Lys	Lys	Ile	Thr	Leu	Leu	Lys	Tyr	Phe	Arg	Asn	Tyr	Met
65					70					75					80
Ser	Glu	His	Leu	Leu	Lys	Ala	Gly	Ala	Asn	Ile	Thr	Pro	Arg	Glu	Gly
			85						90					95	

Asp Glu Leu

<210> 88
 <211> 98
 <212> PRT
 <213> Homo sapiens

<400> 88

Ala	Arg	Leu	Pro	Tyr	Leu	Arg	Thr	Trp	Phe	Arg	Thr	Arg	Ser	Ala	Ile
1				5					10					15	
Ile	Leu	His	Leu	Ser	Asn	Gly	Ser	Val	Gln	Ile	Asn	Phe	Phe	Gln	Asp
			20					25					30		
His	Thr	Lys	Leu	Ile	Leu	Cys	Pro	Leu	Met	Ala	Ala	Val	Thr	Tyr	Ile
		35					40					45			
Asp	Glu	Lys	Arg	Asp	Phe	Arg	Thr	Tyr	Arg	Leu	Ser	Leu	Leu	Glu	Glu
		50				55					60				
Tyr	Gly	Cys	Cys	Lys	Glu	Leu	Ala	Ser	Arg	Leu	Arg	Tyr	Ala	Arg	Thr
65					70					75					80
Met	Val	Asp	Lys	Leu	Ser	Ser	Arg	Ser	Ala	Ser	Asn	Arg	Leu	Lys	
				85					90					95	

Ala Ser

<210> 89
 <211> 87
 <212> PRT
 <213> Homo sapiens

<400> 89
 Ser Ala Gln Leu Leu Lys Ser Val Phe Val Lys Asn Val Gly Trp Ala
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 Thr Gln Leu Thr Ser Gly Ala Val Trp Val Gln Phe Asn Asp Gly Ser
 20 25 30
 Gln Leu Val Val Gln Ala Gly Val Ser Ser Ile Ser Tyr Thr Ser Pro
 35 40 45
 Asp Gly Gln Thr Thr Arg Tyr Gly Glu Asn Glu Lys Leu Pro Glu Tyr
 50 55 60
 Ile Lys Gln Lys Leu Gln Cys Leu Ser Ser Ile Leu Leu Met Phe Ser
 65 70 75 80
 Asn Pro Thr Pro Asn Phe Gln
 85

<210> 90
 <211> 6270
 <212> RNA
 <213> Homo sapiens

<400> 90
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 agtgaatcct tgaggtgtaa cgtggagcca gtagggcggc tacatatctt tagtgggtgcc 120
 catggaccag aaaaagattt cccactacac ctcggaaga atgtggtagg ccgaatgcct 180
 gactgctctg tggccctgcc ctttccatct atctccaaac aacatgcaga gattgaaatc 240
 ttagcctggg acaaggcacc tatcctccga gactgtggga gccttaatgg tactcaaatc 300
 ctgagacctc ctaaggtttt gagccctggg gtgagtcacc gtctgaggga ccaggaattg 360
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 tccccggggc ctctgacagt agaagagaca cccagagtac agggagaaaac tcaacccag 480
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 gtaaaaaaat caaggaccac atcttctct gtgatagttc cagagagtga tgaagagggg 600
 cattccccgg tcttgggagg ccttgggagg ccttttgct tcaatttgaa cagtgcacac 660
 gatgtggaag aaggtcagca accagccaca gaggaggcct cctcagctgc cagaagaggt 720
 gccactgtag aggcaaagca gtctgaagct gaagttgtaa ctgaaatcca gcttgaaaag 780
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 ggggtgggtc cagctggggt gattctggag agggagccaac ctctggaga ggacagtgc 900
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ccggagctcc	agcctaaggc	ctctcaaagc	cgcaagaggt	ctttagctac	catggattca	5460
ccaccacatc	aaaaacagcc	ccaaagaggg	gaagtctccc	agaagacagt	gattatcaag	5520

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<210> 91
<211> 1972
<212> PRT
<213> Homo sapiens

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<400> 91
Met Asp Pro Thr Gly Ser Gln Leu Asp Ser Asp Phe Ser Gln Gln Asp
1      5      10      15
Thr Pro Cys Leu Ile Ile Glu Asp Ser Gln Pro Glu Ser Gln Val Leu
20     25     30
Glu Asp Asp Ser Gly Ser His Phe Ser Met Leu Ser Arg His Leu Pro
35     40     45
Asn Leu Gln Thr His Lys Glu Asn Pro Val Leu Asp Val Val Ser Asn
50     55     60
Pro Glu Gln Thr Ala Gly Glu Glu Arg Gly Asp Gly Asn Ser Gly Phe
65     70     75     80
Asn Glu His Leu Lys Glu Asn Lys Val Ala Asp Pro Val Asp Ser Ser
85     90     95
Asn Leu Asp Thr Cys Gly Ser Ile Ser Gln Val Ile Glu Gln Leu Pro
100    105    110
Gln Pro Asn Arg Thr Ser Ser Val Leu Gly Met Ser Val Glu Ser Ala
115    120    125
Pro Ala Val Glu Glu Glu Lys Gly Glu Glu Leu Glu Gln Lys Glu Lys
130    135    140
Glu Lys Glu Glu Asp Thr Ser Gly Asn Thr Thr His Ser Leu Gly Ala
145    150    155    160
Glu Asp Thr Ala Ser Ser Gln Leu Gly Phe Gly Val Leu Glu Leu Ser
165    170    175
Gln Ser Gln Asp Val Glu Glu Asn Thr Val Pro Tyr Glu Val Asp Lys
180    185    190
Glu Gln Leu Gln Ser Val Thr Thr Asn Ser Gly Tyr Thr Arg Leu Ser
195    200    205
Asp Val Asp Ala Asn Thr Ala Ile Lys His Glu Glu Gln Ser Asn Glu
210    215    220
Asp Ile Pro Ile Ala Glu Gln Ser Ser Lys Asp Ile Pro Val Thr Ala
225    230    235    240
Gln Pro Ser Lys Asp Val His Val Val Lys Glu Gln Asn Pro Pro Pro
245    250    255
Ala Arg Ser Glu Asp Met Pro Phe Ser Pro Lys Ala Ser Val Ala Ala
260    265    270
Met Glu Ala Lys Glu Gln Leu Ser Ala Gln Glu Leu Met Glu Ser Gly
275    280    285
Leu Gln Ile Gln Lys Ser Pro Glu Pro Glu Val Leu Ser Thr Gln Glu

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290	295	300
Asp Leu Phe Asp Gln Ser Asn Lys Thr Val Ser Ser Asp Gly Cys Ser		
305	310	315
Thr Pro Ser Arg Glu Glu Gly Gly Cys Ser Leu Ala Ser Thr Pro Ala		
	325	330
Thr Thr Leu His Leu Leu Gln Leu Ser Gly Gln Arg Ser Leu Val Gln		
	340	345
Asp Ser Leu Ser Thr Asn Ser Ser Asp Leu Val Ala Pro Ser Pro Asp		
	355	360
Ala Phe Arg Ser Thr Pro Phe Ile Val Pro Ser Ser Pro Thr Glu Gln		
	370	375
Glu Gly Arg Gln Asp Lys Pro Met Asp Thr Ser Val Leu Ser Glu Glu		
385	390	395
Gly Gly Glu Pro Phe Gln Lys Lys Leu Gln Ser Gly Glu Pro Val Glu		
	405	410
Leu Glu Asn Pro Pro Leu Leu Pro Glu Ser Thr Val Ser Pro Gln Ala		
	420	425
Ser Thr Pro Ile Ser Gln Ser Thr Pro Val Phe Pro Pro Gly Ser Leu		
	435	440
Pro Ile Pro Ser Gln Pro Gln Phe Ser His Asp Ile Phe Ile Pro Ser		
	450	455
Pro Ser Leu Glu Glu Gln Ser Asn Asp Gly Lys Lys Asp Gly Asp Met		
465	470	475
His Ser Ser Ser Leu Thr Val Glu Cys Ser Lys Thr Ser Glu Ile Glu		
	485	490
Pro Lys Asn Ser Pro Glu Asp Leu Gly Leu Ser Leu Thr Gly Asp Ser		
	500	505
Cys Lys Leu Met Leu Ser Thr Ser Glu Tyr Ser Gln Ser Pro Lys Met		
	515	520
Glu Ser Leu Ser Ser His Arg Ile Asp Glu Asp Gly Glu Asn Thr Gln		
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Ile Glu Asp Thr Glu Pro Met Ser Pro Val Leu Asn Ser Lys Phe Val		
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Val Leu Asp Gln Glu Glu Ala Met Glu Ile Lys Glu His His Pro Glu		
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Glu Gly Ser Ser Gly Ser Glu Val Glu Glu Ile Pro Glu Thr Pro Cys		
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Lys Glu Met Pro Lys Lys Glu Cys Ser Glu Ala Met Glu Val Glu Thr		
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Ser Val Ile Ser Ile Asp Ser Pro Gln Lys Leu Ala Ile Leu Asp Gln		
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Glu Leu Glu His Lys Glu Gln Glu Ala Trp Glu Glu Ala Thr Ser Glu		
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Asp Ser Ser Val Val Ile Val Asp Val Lys Glu Pro Ser Pro Arg Val		
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Asp	Val	Ser	Cys	Glu	Pro	Leu	Glu	Gly	Val	Glu	Lys	Cys	Ser	Asp	Ser	770	775	780
Gln	Ser	Trp	Glu	Asp	Ile	Ala	Pro	Glu	Ile	Glu	Pro	Cys	Ala	Glu	Asn	785	790	795
Arg	Leu	Asp	Thr	Lys	Glu	Glu	Lys	Ser	Val	Glu	Tyr	Glu	Gly	Asp	Leu	805	810	815
Lys	Ser	Gly	Thr	Ala	Glu	Thr	Glu	Pro	Val	Glu	Gln	Asp	Ser	Ser	Gln	820	825	830
Pro	Ser	Leu	Pro	Leu	Val	Arg	Ala	Asp	Asp	Pro	Leu	Arg	Leu	Asp	Gln	835	840	845
Glu	Leu	Gln	Gln	Pro	Gln	Thr	Gln	Glu	Lys	Thr	Ser	Asn	Ser	Leu	Thr	850	855	860
Glu	Asp	Ser	Lys	Met	Ala	Asn	Ala	Lys	Gln	Leu	Ser	Ser	Asp	Ala	Glu	865	870	875
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Val	Thr	Asp	Val	Leu	Glu	Asp	Gln	Lys	Glu	Gly	Arg	Ser	Thr	Asn	Lys	1125	1130	1135
Glu	Asn	Pro	Ser	Lys	Ala	Leu	Ile	Glu	Arg	Pro	Ser	Gln	Asn	Asn	Ile	1140	1145	1150
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Leu	His	Ser	Gln	Gly	Glu	Glu	Glu	Phe	Asp	Met	Pro	Gln	Pro	Pro	His	1220	1225	1230
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